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# New Plant Introductions 1914-1915

Descriptions of Imported Seeds and Plants  
which will be sent to Experimenters

Fourth Annual List

Bureau of Plant Industry  
Office of Foreign Seed and Plant Introduction  
United States Department of Agriculture  
Washington, D. C.

## INTRODUCTORY NOTE.

This catalogue describes over 300 species or varieties of new foreign plants most of which have not been grown to any extent in this country. Our familiarity with them is consequently very limited and they are not like standard seeds and plants, the behaviour of which can be predicted with more or less certainty.

They have been imported for trial because of some direct or indirect use which it is believed can be made of them by Americans.

They are introduced primarily for use by the Federal and State Experiment Stations of the country, but are available to such private experimenters as have the necessary facilities and are desirous of testing them, notwithstanding the fact that they are quite untried commercially.

Since these plants must ultimately be grown by private individuals before their commercial success is assured, it may be well to point out that those private experimenters who test these problematical new plants are assisting in a very practical way in the plant introduction work of the country even though they are not paid for their work.

It is often around the successful cultivation of a new introduction by some private individual that a new plant industry begins.



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The new plants imported by this office of the Department of Agriculture are in most cases so little known to experimenters that their scientific or even common names alone would convey little idea of their character. To distribute them under a name simply and depend upon the experimenters to look them up in a catalogue entails a burden upon the investigator which often results in his being ignorant at the close of the year of what the new plant is good for. To enable him at any time to refresh his memory as to the use of any one of these introductions, special celluloid tags have been devised upon which are printed sixty words of description. These descriptive tags are attached to the plants when they are sent out. This catalogue is made up of the identical descriptions which will appear upon the celluloid tags.

The information on the labels consists of the Plant Introduction (S.P.I.) number, under which the plants are known at all times, of the scientific name and a common name, when one has been adopted for this country, and a brief description of the plant with its uses and, where possible at this time, a suggestion of the general region to which the plant is likely to be adapted. The labels are made of celluloid, covered on both sides with fine linen, and *if kept from contact with the soil* they will remain in good condition for several years. If buried in the soil they become brittle and illegible.

In some instances few or no plants of the exact number given in the description may be available for distribution, but in such cases plants of the same species and variety under another introduction number may be substituted.

On sheets accompanying this distribution catalogue will be found a complete list of all plants listed herein. *Requests for material for trial should be made by checking the names of the plants desired in these sheets at the end, signing the name and address in full, and returning the sheets to this Office.*

If the applicant is not already on our list of experimenters, full information should be supplied as to the amount of land at his disposal, whether owned or leased, whether plants are desired for greenhouse or outdoor culture, and his experience in caring for and experimenting with plants.

Since the electrotypes slugs of all descriptions in this and previous catalogues are kept in stock in this office, experimenters having plants growing from previous distributions who desire to re-tag them can secure new tags by sending in a twig of the plant, the tag of which is lost, and furnishing information as to the year in which it was sent and any other available data.

**18580. ABELMOSCHUS  
MANIHOT.** From Mr. Frank N.  
Meyer, Peking. A perennial with very  
large bright yellow flowers.

**27493. ABELMOSCHUS  
MANIHOT.** From Yokohama, Japan.  
Perennial fiber plant, used by Jap-  
anese for sizing handmade papers by  
macerating the roots in water and  
adding this mass to the paper pulp  
prepared from *Edgeworthia* or paper  
mulberries. The best and most ex-  
tensively used mucilaginous plant of  
Japan.

**32706. ABIES NUMIDICA.**  
Algerian Fir. From Babois, Algiers,  
through L. Trabut. A very beautiful  
tree, related to the Spanish fir (*Abies  
pino*). Grows on limestone soils in  
company with Atlas cedar and yew, in  
regions with heavy winter snows.  
Grows 60 feet high and thrives at an  
altitude of 6,000 feet. Should thrive  
wherever the common yew and Atlas  
cedar grow well.

**38758. ACACIA RETINODES.** Wirilda. From the Royal Botanic Gardens, Kew, England. An ever-flowering Acacia, native of Victoria and South Australia, where it grows in moist places along the river banks. It grows to the height of 20 to 25 feet. The wood is tough and durable, prettily grained and furnishes a good gum arabic. Adapted to California conditions.

**38524. ACACIA VEREK.** Gum Arabic. From Khartoum, Sudan, through S. A. Wood. One of the trees which furnishes the gum arabic of commerce. Thrives best in dry climate with maximum rainfall of 21 inches, and no rainfall for several months. Any soil said to suit it. Tree fit for tapping in its fifth year. Probably will stand slight frost only.

**ACANTHOSICYOS HORRIDA.** "Narras," from West Africa. Thorny plant remarkable for its sandbinding character. The Hottentots are inordinately fond of the sweetish flesh of the squash-like fruits, which contain a very acrid, irritating principle. The nutritious seeds are palatable and have been used by Europeans as a substitute for almonds.

**38478-80. ACHRADELPHA**  
SP. Injerto. From Coban, Guatemala.  
Collected by O. F. Cook. Finer tree  
than true sapota. Adapted apparently  
to cooler climate. Deserves trial in  
Florida. Fruit yellowish-green with  
russeted ends. Sweetish, smooth, ten-  
der, yellow pulp, tinged with brown,  
with no astringency. Will be liked  
by those who like Japan persimmons.

**ACTINIDIA CHINENSIS.** Yang  
Taw. Deciduous, trailing vine, with  
handsome white flowers, occurring  
wild in Eastern China. Dioecious; the  
pistillate plants produce fruits resem-  
bling in size and shape small plums,  
with delicate gooseberry flavor. Eaten  
raw or made into delicious jelly. For  
testing for porch decoration and fruit-  
ing in the mild-wintered regions of  
the United States.

**27160. ADANSONIA DIG-  
ITATA.** Baobab Tree. From O. W.  
Barrett, Tete, Zambesia. Soft-wooded  
tree with enormous spreading  
branches. The bark furnishes a  
strong fiber suitable for the manufac-  
ture of ropes and coarse cloth. The  
leaves are used by the natives for  
medicinal purposes, and the agreeable,  
slightly acid pulp of the fruit, is edible.

## **ALEURITES FORDII.**

Tung Oil or Wood Oil tree of the Yangtse Valley, China. The large seeds borne in fruits the size of small apples yield 28 per cent. of one of the best drying oils known. Large importations made into America. Deciduous tree with white flowers. Stands frost. Seven year old tree near Tallahassee, Fla., bore one bushel of fruit. Seed noted edible.

## **28597. ALEURITES MOLUC- CANA.** "Candle Nut." From Mr. Wm.

S. Lyon, Manila. Tall tree yielding a commercial oil of quick drying properties. Forms an attractive shade tree in warm and well protected localities. Where the seeds are not used for the extraction of oil, the half-ripe kernels are considered very palatable when roasted.

## **36897. ALEURITES MON-**

**TANA.** Mu-yu wood-oil. From Hong Kong, China, through Mr. W. J. Tutchet. A south China species of wood-oil presumably more tender than the Tung-yu from the Yangtse valley. Flowers on wood of current season's growth after leaves have expanded. Fruit with much raised ridges. Reported to be a better bearer than Tung-yu in Fokien Province.



**38787. ALLIUM SCHOENOPRASUM.** Chives. From Frank N. Meyer, Sianfu, Shensi, China. A variety of this onion-like vegetable, used, after being forced and blanched, by the Chinese, as savory for soups and with fried meats. Chinese name "Tcho-tsai." Propagated by division of the tufts. May prove superior variety for blanching purposes.

**AMERIMNON SISSOO.** Deciduous timber tree, 60 to 80 feet high, native of the plains of India and up to 5,000 feet elevation in Afganistan, Beloochistan and the Central Himalayas. Grows well along sandy river banks, but resists drought moderately, endures great heat and occasional sharp frost. Timber valuable, being very elastic, seasons well, does not warp or split, is easily worked and takes a fine polish.

**33216. AMYGDALUS COMMUNIS.** Esperanza Almond. From Granada, Spain, through Walter T. Swingle. A variety recommended for culture by Pedro Giraud, nurseryman of Granada, who points out that almonds give best results on warm, rocky limestone soils. Grafted on the wild Chinese stock, *Amygdalus davidiana*, S. P. I. 34515. For trial in the California and Arizona almond regions.

**33217. AMYGDALUS COMMUNIS.** De la P. Almond. From Granada, Spain, through Walter T. Swingle. A large, early, hard-shelled variety, recommended by Pedro Giraud, nurseryman of Granada, who points out that almonds give best results on warm, rocky, limestone soils. Grafted on the Chinese *Amygdalus davidiana*, S. P. I. 34515. For trial in California and Arizona.

**33218. AMYGDALUS COMMUNIS.** Desmayo Almond. From Granada, Spain, through Walter T. Swingle. Recommended by Pedro Giraud, nurseryman, as more resistant to frost than any hard-shelled variety. The peculiar attachment of flower turns it downward, and corolla and sepals protect organs and insure fertility when other varieties lose their crops from frost. On *Amygdalus davidiana*.

### **AMYGDALUS DAVIDIANA.**

From Frank Meyer, Tientsin, China. Important wild dryland peach used commonly as stock for stone fruits in China. Resists severe droughts and is not affected by quite alkaline soils. Strong vigorous grower. As hardy as the Chihli peach in Central Iowa, and especially early stock in California.

**21989. AMYGDALUS PERSICA.** Peach. From Frank N. Meyer, Feitcheng, China. Budded tree from seedling of famous Fei variety. Fruits large, clingstone, pale yellowish. White flesh, pink around the stone; mild sub-acid, rather lacking in flavor; firm, somewhat tough; juicy; good keeper and shipper. Fruits early in August. On Mexican stock. Distributed for testing and breeding purposes.

**24915. AMYGDALUS PERSICA.** Chinese Peach. From Canton, China, through G. W. Groff. Coming from South China, which has hot, humid climate where ordinary peaches fail, this variety may prove valuable for subtropical regions, although the fruit produced in California was too strong in flavor and too astringent to make the variety valuable there.

**33219. AMYGDALUS PERSICA.** Spanish Peach. From Pedro Giraud, Granada, Spain. "Vainqueur." Introduced chiefly for trial as one of the Spanish peaches most frequently propagated. No information is available concerning its quality, except that most Spanish peaches are of good quality.

## **AMYGDALUS PERSICA.**

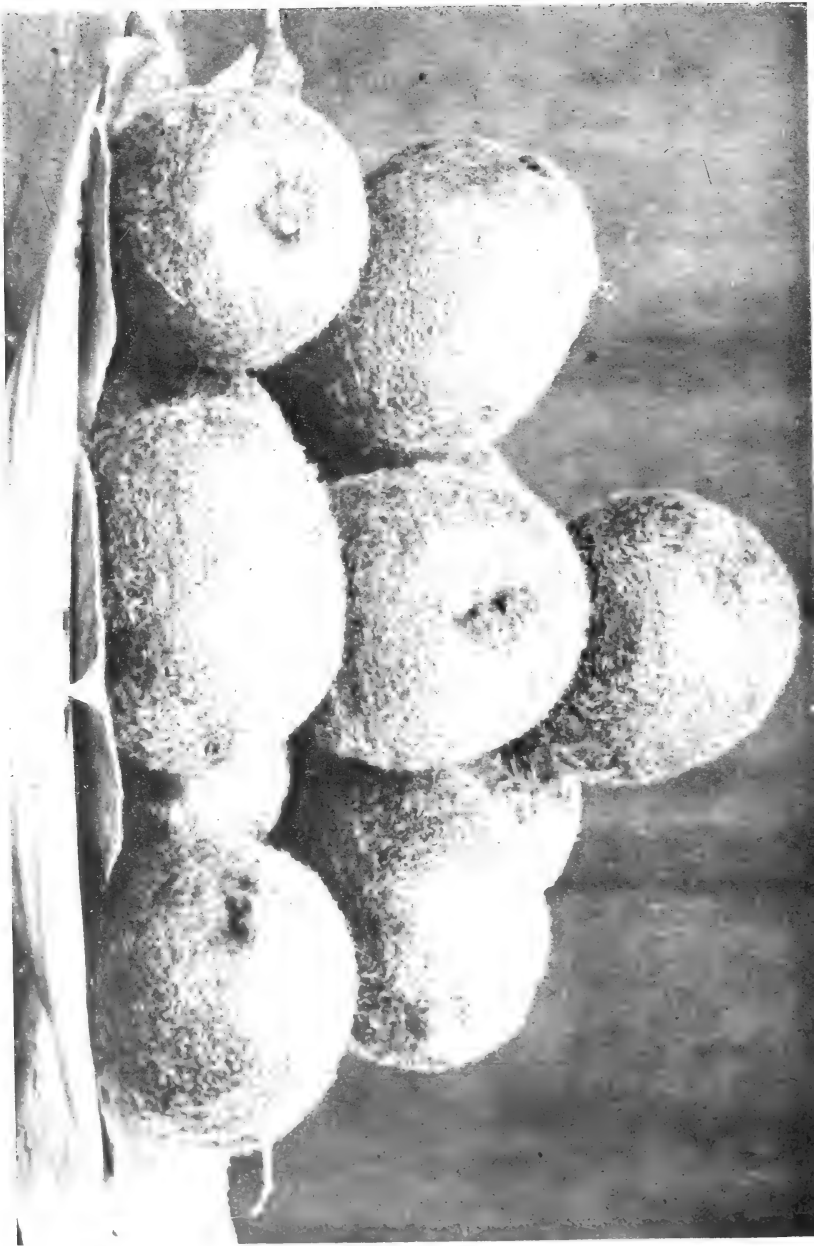
Bolivian Clingstone Peach, budded on common peach. The parent tree was raised from seeds collected by Edward Ehrhorn in Bolivia, from trees grown by the Franciscan padres. The fruits are of medium size and fine quality.

**34684. AMYGDALUS PERSICA NECTARINA.** Quetta Nectarine. From Quetta, India, through Lieut. W. L. Maxwell. Seedling from the best nectarine tree in Quetta. Fruited out in California. Pronounced by experts to be exceptionally fine and worthy of wide dissemination because of large size and good color, notwithstanding thin skin. Budded on Mexican peach stock (P. I. G. 8562).

**34688. AMYGDALUS PERSICA NECTARINA.** Crosby Nectarine. From Kashgar, Kashmir, through Rev. P. J. P. Hendriks. Selection from seed. As fruited out in America, a juicy, good, rather thin skinned, medium sized nectarine, suited to short, hot summers. Hardy at Washington. On common peach stock, (P. I. G. No. 8562).



The Yang Taw Vine in Bloom. A rank growing vine with beautiful velvet-green foliage. Behaves as hardy perennial wherever frosts are severe.



Fruits of the Yang Taw (*Actinidia chinensis*). Much appreciated as a table fruit and often stewed in China and Korea.

## **ANNONA CHERIMOLA.**

**Cherimoya.**

Medium-sized shrub or dwarf tree, with evergreen foliage and small yellowish flowers. Fruits roundish, conical or heart-shaped, 3 to 6 inches in diameter with pleasantly flavored, sweetish pulp of the consistency of ice-cream with black seeds irregularly imbedded in it.

## **35590. ANNONA LUTESCENS.**

Anona. From Don Nat. O. y Osuna, Sinaloa, Mexico. A small tree with spreading branches, from northern Guatemala and southern Mexico. Local name "Annona amarilla." Closely related to *A. reticulata*, differing in its broader leaves and its yellow fruit. In appearance the fruit resembles the alligator apple, (*A. glabra*), which is distinguished by its larger flowers.

## **32302. ANNONA MURICATA.**

Soursop from Camaguey, Cuba. Presented by Mr. Roberto L. Luaces. A small tree with heart-shaped fruit 6 to 9 inches in circumference, with fresh agreeable acid pulp, excellent for the table and for making preserves. May be valuable as a stock for better quality annonas.

**33748. ANNONA RETICULATA.** Bullock's heart. A small, American, tropical, bushy tree, with heart-shaped, brownish-red or yellow fruit, with many large, dark-brown seeds, and sweet, custard-like, granular pulp.

**37933. ANNONA SALZMANNI.** Araticum. From Bahia, Brazil, through Dorsett, Shamel and Popenoe. Handsome, medium-sized tree resembling the custard-apple, but differing in having thick, leathery leaves with impressed nerves. Its vigorous, robust habit suggests its use as stock for cherimoya and for breeding purposes.

**37911. ANNONA SPINESCENS.** Araticum. From Urubu, Bahia, Brazil, through Dorsett, Shamel and Popenoe. Wild, bushy shrub 15 feet high, common on low river banks. Its compact growth and stout spines make it a possible hedge plant. Fruit orange-red three inches long, somewhat resembling cherimoya; edible, but of little value except possibly for hog feed. A possible stock for cherimoya.



**ANNONA SQUAMOSA.** Sugar Apple. Indigenous to the Malay Islands, but now cultivated throughout the tropics and subtropics. Superior varieties are readily propagated by budding on seedlings of the same species or on *A. glabra*. The roundish fruits, about 4 inches in diameter, contain a soft granular pulp of pleasant, sweet flavor, enclosing numerous seeds.

**36088. ANTIDESMA BUNIUS.** Bignay. From Mr. O. W. Barrett, Philippine Islands. A small, handsome euphorbiaceous tree with dark evergreen leaves of bitter flavor. Fruit about the size of a pea, dark red in color, ripening to black, sweet subacid in flavor, produced in long racemes like the currant. It is used in Java for preserving, but is also eaten raw.

**34695. ANTIDESMA NITIDUM.** From C. F. Baker, Los Banos, Philippine Islands. A fine, shapely shrub, nearly covered with great numbers of pendant clusters of small edible berries of a red color turning to black. Valuable for its fruit and for ornamental planting.

**ARALIA CORDATA.** Udo. A Japanese vegetable suitable for wide cultivation for its blanched, edible shoots. Plant 3 to 4 feet apart. Plants grow bushy and yield edible shoots for nine years. To blanch shoots mound with earth or cover with closed drain tile in early spring. To cook, peel, slice into ice water and serve with French dressing, or stew and serve like asparagus.

**ARGANIA SPINOSA.** Spiny, compact, evergreen tree growing in driest soils in Morocco and forming forests. Olive-sized fruits contain single hard seeds, from which an oil with irritating and harsh taste is extracted, much used in Morocco for food and light; also makes good soap. Fruits are eagerly eaten by cattle and also used as a substitute for olives. Trees bear in four years

**37893. ARISTOLOCHIA GALEATA.** Birthwort. From Bello Horizonte, Minas, Brazil, through Dorsett, Shamel and Popenoe. A decorative vine for covering fences, out-houses, etc., bearing peculiar-shaped flowers like "Dutchman's Pipe", to which it is related. Flowers mottled, greenish and cream-colored. Recommended for trial as a porch vine in the South.

**19113. ARISTOTELIA CHILEN-**  
**SIS.** From Mr. Teodoro Finger, Cor-  
onel, Chile. Spanish name "Maqui."  
A beautiful evergreen bush or tree,  
producing small, reddish-black fruits  
of the size of a pepper with a sweet-  
acid taste. The juice of this fruit is  
used for coloring wine and is export-  
ed in large quantities to Europe, Ar-  
gentina and Peru. Formerly known  
as *Aristotelia macqui*.

**ARRACACIA XANTHOR-**  
**RHIZA.** Arracacha. Perennial herb,  
2 to 3 feet high, with deeply divided  
leaves and small heads of purple flow-  
ers. The large and fleshy roots which  
have a peculiar pleasant flavor, but are  
slow in reaching maturity, form a  
most important article of food in  
South and Central America. Cooked  
like parsnips, which they resemble.  
For Gulf States and California.

**37013. ARTABOTRYS UNCI-**  
**NATUS.** An ornamental tropical  
shrub with climbing, spreading  
branches and large glossy leaves from  
5 to 10 inches long, smooth on both  
sides. The peduncles are hooked and  
usually opposite a leaf, with fragrant,  
brownish-red, woolly-petaled flowers  
and two-seeded fruits about the size  
of walnuts.

### 36797. ARTEMISIA SP.

Wormwood. From Peking, China, through Frank N. Meyer. A biennial *Artemisia* which the Chinese use as a stock for the chrysanthemum and claim that grafted plants are earlier, require less water and no manure; are more easily lifted and transplanted than on their own roots. May prove valuable for regions with too short summers or too cool nights for outdoor chrysanthemum culture.

### 34357. ASPIDOSPERMA MACROCARPON. Guatambu.

A tree found on the plains in the province of Minas Geraes, Brazil, source of an important commercial timber used in building and for agricultural implements. It has a flat pod several inches in diameter containing a number of large, flat, paper-winged seeds. A related tree furnishes quebracho, the tanning material of Brazil

### 20974. BARLERIA FLAVA.

From W. S. Lyon, Mindoro, Philippine Islands. A dwarf shrub belonging to the order *Acanthaceae*. This species produces small yellow flowers arranged in terminal spikes, and flowers very abundantly over a period of six months. In its native habitat succeeds in shallow, rocky soil at sea level where exposed to nearly continuous drought from January to May.

**34330. BARYXYLUM IN-  
ERME.** From E. D. Merrill, Manila,  
Philippine Islands. Tall, ornamental,  
evergreen shade tree, with Mimosa-  
like foliage, native of the Malayan  
region, found growing near the sea-  
shore. Has large, showy, yellow flow-  
ers, in terminal panicles. Related to  
the Poinciana.

**36535. BELLUCIA COSTA-  
RICENSIS.** Papaturro Agrio. From  
San Jose, Costa Rica, through Carlos  
Werckle. A shrub with large flowers  
and yellow fruits, about the size of  
gooseberries, having a strongly pro-  
nounced flavor between sweet and  
sour. Found only in the Valley of  
Diquis.

**36864. BELLUCIA SP.** From  
San Jose, Costa Rica. Presented by  
Mr. Carlos Werckle. A small tree with  
edible fruits of very good flavor. The  
flowers which are large and beautiful  
are very fragrant. This plant grows  
principally on the banks of creeks  
and should do well in fresh, deep  
alluvial land in hot climates.

**37497. BERBERIS SUB-CAULIALATA.** Barberry. From Botanic Garden, Glasnevin, Dublin, Ireland. Deciduous, spiny shrub from Western China, with short leaves one-half to one inch long; whitish beneath. Flowers in very short, nodding racemes; fruit red. As dooryard shrubs barberries have proven so invaluable that this Chinese form is worthy of trial.

**37498. BERBERIS WALLICHIANA.** Barberry. From Botanic Garden, Glasnevin, Dublin, Ireland. A large-leaved evergreen species from Himalayas, with brown branches, very dark green dense foliage and long slender spines. Leaves in clusters, three to four inches long; turn claret color in autumn. Deserves trial as dooryard shrub in comparison with *Mahonia*. Hardy in Ireland.

**25569. BERBERIS WILSONAE.** Barberry. From Newry, Ireland. A low growing Chinese ornamental shrub with narrower foliage and more compact habit than *Berberis thunbergii*.



Chinese Wood Oil Tree (*Aleurites fordii*)  
in Full Flower on the banks of the  
Yang Tse Kiang. A handsome ornamental  
as well as a promising new tree crop for  
the Southern States. Wood oil is one of  
the best varnish and paint oils known.

Fruits from a Chinese Wood Oil Tree in Mississippi. A single isolated tree at Tallahassee, Florida, has borne eight bushels in four years.





### 36773. BETA VULGARIS.

Swiss Chard. From Frank N. Meyer, Hwai lai, Chili, China. Chinese variety called, "Tien tsai," or "Chingda." Swiss chard is easily grown and a remarkable green vegetable, producing great quantities of leaves, the broad, fleshy, midribs of which are excellent when cooked like celery stalks. The Chinese fry this variety in oil with meats.

### 35232. BLIGHIA SAPIDA.

Akee. From W. Harris, Kingston, Jamaica. A beautiful African tree for park, and possibly street planting. Properly prepared, the bright yellow, fleshy aril is a richly flavored, wholesome food. Stew in milk and brown in a frying pan with butter; or boil and mix with salt fish, onions and tomatoes. The aril when old becomes poisonous. Only those from absolutely fresh fruits should be used.

### 33102. BOCCONIA FRUTESCENS.

From Dr. A. Robertson Proschowsky, Nice, France. The seeds of this species are so oily that if they could be produced in large enough quantities some use could perhaps be made of them. The plant is a very beautiful, large, evergreen shrub of striking foliage. First introduced into the United States by Franceschi in 1895.

**37699. BOTOR TETRAGON-  
OLOBA.** From Lamac, Bataan,  
Philippines, through P. J. Wester.  
A tropical climbing bean with long,  
winged pods, suitable for use as string  
beans, when tender being of excellent  
quality. In India pods are also used  
in "Indian Pickles." Successful only  
in moist tropics, on rich, well-drained  
soil. Formerly known as *Dolichos*  
*tetragonolobus*.

**32416. BRASSICA JUNCEA.**  
Collected by Mr. Frank N. Meyer,  
Sarepta, Saratoff Government, Russia.  
The famous Sarepta mustard which is  
very strong and in great favor through-  
out Russia. Besides being ground into  
mustard powder, the seeds themselves  
are often used in cooking. The oil  
which is expressed from the seeds is  
also used for culinary purposes.

**36770. BRASSICA OLERA-  
CEA CAULO-RAPA.** Kohlrabi.  
From Frank N. Meyer, Kalgan, China.  
Giant variety, occasional specimens  
weighing 25 pounds. Related to cab-  
bage, but only its swollen fleshy stems  
are eaten. As garden vegetable, sow  
same as cabbage. Cut while stems are  
young and tender, cook like turnips.  
For stock food, sow in open ground.

## **BRASSICA PEKINENSIS.**

Pe-tsai or Chinese Cabbage. From various sources in North China. A fall cabbage, NOT SUITABLE FOR SPRING PLANTING as it goes to seed. Sow in July in rows; begin manuring heavily when four inches high. Harvest after first light frost; heads long, cylindrical, not very firm. By cutting off all green leaf tips it can be cooked without penetrating cabbage odor.

## **36967. BROMELIA SP. Grava-**

ta. From near Bahia, Brazil. A bromeliaceous plant allied to the pineapple. Fruits translucent, pale straw colored, 3 inches long and somewhat angular, with crisp, juicy flesh that is spicy and delightfully acid. Small, flattened seeds. Before eating the fruit the very acid skin must be carefully removed to avoid burning the lips and mouth.

## **37895. BUNCHOSIA SP.**

Cafe do Matto. From Lagoa Santa, Minas, Brazil, through Dorsett, Shamel and Popenoe. Small tree 25 feet high, producing clusters of bright red fruits the size of small cherries. Each fruit contains one seed surrounded by a viscous, sticky pulp of sweetish flavor, but very astringent. A tea said to equal mate (the popular drink of Brazil) is made from the leaves.

**CACARA EROSA.** Yam Bean.  
Climbing leguminous vine of rampant growth; producing, on slender underground roots, succession of large tuberous roots. May supersede arrow-root for starch production as return in starch is greater. Can be planted any season; matures roots in five months. Beans are poisonous, but roots edible fresh, in curries, or boiled like potatoes.

**36303. CAESALPINIA SP.**  
An undetermined species grown from seed obtained from an Indian woman in Arequipa, Peru, by Mr. W. F. Wight of the Bureau of Plant Industry.

**7344. CAMOENSIA MAXIMA.**  
A beautiful vine found in tropical Africa where it climbs to the tops of lofty trees on the outskirts of forests, having pendulous clusters of large, deliciously fragrant flowers nearly eight inches long, with pure white, fluted petals that are margined with gold, darkening with age.

**29961. CARAGANA ARBOR-  
ESCENS.** Siberian Pea Tree. From  
Sir David Prain, Kew, England. Hardy  
ornamental shrub, 20 feet high, with  
yellow flowers, extensively grown in  
Russia, trimmed low for ornamental  
hedges. Very drought resistant and  
used by the Russian government as a  
nurse tree in dry, young timber tracts.  
For testing as an ornamental and as  
a windbreak.

**22981. CARAGANA SP.** From  
Soochow, Kiangsu, China. Through  
Frank N. Meyer. A low growing shrub,  
not common. In China cultivated in  
pots as an ornamental plant. It bears  
bronze-yellow flowers. Probably not  
hardy in the northern states. Chinese  
name, "Fei chong." Caraganas are  
among the best of the dooryard shrubs  
and this one should be tested widely.

**36746. CARAGANA SP.** From  
near Tau hwa, China. Collected by  
Frank N. Meyer. A spiny, dark green  
shrub, bearing yellow flowers in  
spring or early summer. Suitable for  
dooryard planting and as a shrub  
along pathways, especially for the  
colder sections of the United States.  
Found growing in rocky and dry  
places; reaches a height of from two  
to three feet.

### 36715. CARAPA GUIANENSIS.

Collected by Dorsett, Shamel and Popenoe in Rio de Janeiro, Brazil. An Amazonian meliaceous tree with leaves  $1\frac{1}{2}$  feet long, used to good effect in the Rio Botanic Garden as an avenue tree. It grows 50 feet high, fruit about the size of a baseball, russet brown. For trial in south Florida and southern California.

### CARICA CANDAMARCENSIS.

Mountain Papaya. Colombian tree, smaller than *Carica papaya*; presumably hardier, with much smaller, more angular fruits of too acid a flavor for dessert, though very agreeable when stewed; also used for jams and preserves. Ripe fruit has a pleasant, apple-like odor. Introduced for test of papain quality and for hybridization with *Carica papaya*.

### CARICA PAPAYA. Papaya.

Rapid growing fruit tree, reaching twenty-five feet; in ten months bears numerous melon-shaped fruits on its trunk. Good varieties deliciously sweet with characteristic flavor; relished as breakfast fruit. Easily digested, containing powerful papain ferment. Try as annual in northern Florida and Texas. Easily grown in hot-house. Both sexes required.

**24194. CARISSA CARANDAS.**

From Dr. John C. Willis, Royal Botanical Gardens, Peradeniya, Ceylon. A small tree with sharp forked thorns, native in the dry regions of India and Ceylon. The fruit, which resembles the damson plum in size and color, is much used for tarts and puddings when not quite ripe, and for jellies when ripe. Suitable for hedges in dry regions.

**32482. CARISSA GRANDIFLORA.**

South African amatungulu. Presented by Mr. J. E. Higgins of Honolulu. A handsome apocynaceous shrub with glassy green leaves, white scented flowers, and scarlet ovoid fruits an inch in length. Useful home garden fruit with a flavor peculiarly like that of cranberries when stewed. Fruit can be dried like prunes

**35910. CASSIA BEAREANA.**

From Mr. Pliny W. Keyes, Inhambane, East Africa. A tree up to 30 feet in height, with leaves eight to ten inches long and small, blackish-brown, oval seeds. The roots are said to furnish a valued remedy for the much-feared East African black-water fever.

### **CASTANEA MOLLISSIMA.**

Chinese Chestnut. From north China. Collected by Frank N. Meyer from old trees in a region where the chestnut bark disease has probably existed for centuries. High degree of resistance but not entire immunity probable. Hardy tree, not valuable for timber, being only 40 feet tall and low-branching. Nuts larger than American, but not so sweet.

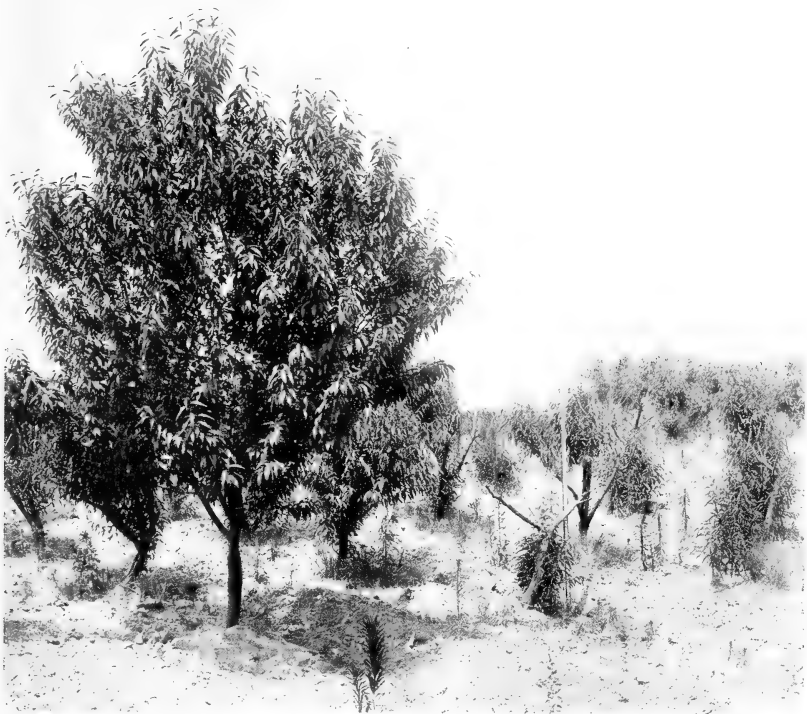
### **24714. CATHA EDULIS. Khat.**

From Mr. T. Gerolimato, Harrar, Abyssinia. The Khat tree of Arabia and Abyssinia where its culture is an important industry. The leaves are chewed by the Arabs for the stimulating effect produced by the alkaloid which they contain. Distributed under special restrictions by the Department for investigative purpose only.

### **31393. CEIBA PENTANDRA.**

Kapok. From Buitenzorg, Java. A tall tropical tree, 20 to 30 meters high, with spreading horizontal branches. The fiber surrounding the seeds of this and related species is the "Kapok" of commerce. The wood is white and soft; in Porto Rico it is considered desirable for minor building purposes.





Chinese Wild Peach Tree (*Amygdalus davidiana*) at Ames, Iowa, after a January temperature of -35 F. had killed to the ground the Hills Chili peach trees around it. In Texas and Southern California it has proven a very drought resistant stock, while in the irrigated desert region of California it gives promise of being a very early stock.



Stones of the Chinese Wild Peach, (*Amygdalus davidiana*). The fruits are not edible and the flowers open so early that they are often killed by frost but the tree is very cold and drought resistant and is used almost universally in China as a stock for stone fruits.

**37900. CELTIS SP.** A tree about 30 feet high and sometimes spreading in habit, related to our native hackberry, found growing on the river banks in Pirapora, Minas, Brazil. The small, orange-colored fruits, about one-fourth inch in diameter, are edible and eagerly sought after by the boys.

**38601. CEREUS TRIANGULARIS.** Pitaya. From Guatemala City, Guatemala, through O. F. Cook. A climbing cactus with triangular stem; cultivated in tropical America for its refreshing fruit which is egg-shaped and filled with sweet, deep crimson pulp of the consistency of watermelon and containing many small black seeds. Adapted to the South or southern California.

**37217. CEROPEGIA THORNCROFTII.** From Barberton, Transvaal, through George Thornecroft. A climbing, ornamental, asclepiadaceous vine with many-flowered cymes of white flowers with purple blotches. Has fleshy roots and fleshy leaves. Occurs on the dry veldt growing on the acacia trees. Should be tried by amateurs in the southwest and Florida.

**CHAYOTA EDULIS.** Chayote or Mirliton. Perennial, rank-growing, cucurbit vine, bearing annual crops of striking green or white fruits. Flowers need abundant insect fertilization. Fruits more delicate than squash. Excellent boiled or baked as vegetable. Good shipper. Already cultivated occasionally in the South, but deserves serious study. Fruits well on Everglades.

**33096. CHIOCOCCA ALBA.** From Mr. J. B. Donnelly, Palm Beach, Florida. This large, rubiaceous shrub which occurs in southern Florida, has an erect or reclining habit. The leaves are elliptic to ovate and the flowers are white often turning to yellow. When grown in the jungle this plant climbs on trees, but when in the open and kept properly trimmed, makes a nice shrub which is covered with white berries which remain all winter.

**38330. CHORISIA SP.** Paina Tree. From Lavras, Minas, Brazil, through B. H. Hunnicutt. Like its relative the Silk Cotton tree, this produces large, pear-shaped pods with seeds surrounded by long silky fibers, which are used for pillows and fine mattresses. A small, rapid growing, ornamental tree, bearing large, rose-colored flowers. For trial in Florida.

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**38658. CHRYSANTHEMUM**  
**SP.** Chung-ow. From Harry H. Boyle,  
Manila, Philippine Islands. Edible  
chrysanthemums used by Chinese in  
same manner as Americans do kale or  
spinach and considered by Boyle a  
very good substitute for both. Re-  
commended to amateurs for prelimi-  
nary experiments. Culture suggested  
identical with that of the flowering  
chrysanthemum.

**CICER ARIETINUM.** Chick-  
peas. Garbanzos. Drought resistant  
varieties of this legume are recom-  
mended for dry farming regions and  
as rotation crops with wheat. Culture  
similar to English bush peas and the  
yield of seeds about 12 bushels per  
acre. The small pods contain one or  
two seeds. Eaten roasted like salted  
peanuts, boiled or baked like navy  
beans, or ground into flour.

**29408. CISSUS CAPENSIS.**  
From Mr. William Hertrich, San Gab-  
riel, Cal. This broad-leaved evergreen  
vine of fast growing habit occurs in  
the mountainous ravines on the east-  
ern side of the Table Mountain and in  
the Uitenhage region of Cape Colony.  
It has proved to be a good climbing  
plant in the vicinity of San Gabriel,  
Cal., and is particularly desirable as  
an arbor vine on account of its heavy  
dark green foliage.

## **CITRULLUS VULGARIS.**

Watermelon. Melon seeds, even from excellent fruits, are so apt to give disappointing results, either through having been cross-pollinated, or because of the new environment, that descriptions of them are likely to be misleading. Seeds from Chinese, Roumanian, Siberian and Caucasian sources are on hand and will be supplied to experimenters under name and number on request.

## **35484. CITRUS HYSTRIX.**

From Mr. P. J. Wester, Lamao, Bataan, Philippine Islands. A thorny tree 20 to 40 feet high with leaves six to ten inches long and broadly winged. The smooth, greenish lemon color fruits are aromatic, juicy and sharply acid, making a fair "ade" and also used for cleaning clothes. For trial as a citrus stock.

## **23028. CITRUS LIMONUM.**

Lemon. From Frank N. Meyer, Feng-tai, China. Dwarf, ornamental lemon, cultivated by the Chinese as a decorative plant in the winter. Small pot plants are frequently observed with a dozen large lemons on their branches. Readily propagated from cuttings. For testing as an ornamental and for breeding experiments in this country.



**31881. CITRUS SP.** Orange from Paraguay. Presented by Mr. C. F. Mead. An unusually resistant native wild orange with large fruit, neither sweet nor sour, very thick skin, which is used for preserves.

**31981. CITRUS SP.** Sour citron from Nagpur, India. Procured by Mr. R. S. Woglum. The chief stock for oranges in Central Provinces, India. Has a sour fruit with a yellow rind, like a lemon.

**38708. CLAUCENALANSIUM.** Wampee. From Honolulu, Hawaii, through E. V. Wilcox. Seedlings from the place of A. J. Campbell. Low, spineless, very odorous tree related to citrus, upon which it can be grafted. Fruit the size of gooseberries, pubescent, with balsamic fragrance; rather a condiment than a dessert fruit. Grows well in Florida. Should be tested as stock for citrus.

**22620. CLEMATIS RECTA**  
**MANDSHURICA.** From Frank N. Meyer, Shinglungshan, China. Herbaceous perennial, 2 to 3 feet high, with erect stems terminating in panicles of large white flowers. For testing as an ornamental or as a cut flower plant.

**36927. COCOS CORONATA.**  
Nicuri palm. Collected by Messrs. Dorsett, Shamel and Popenoe in Bahia, Brazil. A palm 20 to 30 feet high, usually somewhat scraggly in appearance on account of the leaves being whipped and torn by the wind. The old leaf bases usually adhere to the trunk and are arranged spirally giving a curiously twisted appearance to the palm. The leaves are glaucous and when not torn are very graceful.

**GOLOCASIA ESCULENTA.**  
Dasheen. From various West Indian and East Indian sources. Large-leaved aroid, related to the taro and the elephant ear, producing numerous small tubers around a large central one. These, when cooked, are as palatable as potatoes, richer in protein, and with a nutty flavor. Twenty-five hundred people are growing them in the South.

**37866. COPERNICIA CERIFERA.** Carnauba Palm. From Joazeiro, Bahia, Brazil. Through Dorsett, Shamel and Popenoe. Forms large groves along river banks. Wax exuding from cut leaves, dried in the sun, once formed basis of important industry. Fruits so highly valued for hog feed that owners of groves are protecting them. Probably slow grower, single tree yields bushel of fruits.

**34432. CORDYLINE BANKSII.** Palm Lily. From D Petrie, Epsom, Auckland, New Zealand. Fine liliaceous plant, native of New Zealand, appearance much like a hardy, tree-like palm, often 10 feet high, with leaves from 5 to 6 feet long. Flowers white, bell-shaped, in drooping panicles, in late spring, sweet-scented; much visited by bees. Fruits whitish, succulent, berry-like, with angular, black seeds.

**36741. CORNUS SP.** From Hsiao Wu tai shan, China. An eight-foot shrub with large leaves, hairy underneath. Berries borne in masses, turning bluish-black when ripe. Found at elevations of 5,000 feet. Of value as a door yard, park and garden shrub for the cooler sections of the United States.

**34266. CORYLUS AVELLANA.**

Hazelnut. From Dr. Gustav Eisen, Boscotrecase, near Naples, Italy, ripening the latter part of June. Of very good quality, though not as highly flavored as the wild nut. Remarkably well filled and solid. Cultivated hazelnuts have proven very subject to diseases in the Eastern United States, but have done well on the Pacific coast.

**36727. CORYLUS SP. Hazelnut.**

From Frank N. Meyer, Hsiao Wu tai shan, China. A wild hazelnut occurring on the mountain sides at elevations of 5,000 to 9,000 feet. The nuts grow in clusters and are enclosed individually in long, beak-like involucre covered with spiny hairs. Of value as a park shrub for the cooler sections of the United States. May prove of interest to breeders of hazelnuts.

**35689. CORYPHA ELATA.**

Palm. From Manila, Philippine Islands, through O. W. Barrett. Large, tropical, fan palm, related to the famous Talipot palm of Ceylon. Grows 70 feet tall and then produces immense bloom and dies. Leaves of very large size used for fans, etc. A very decorative palm for regions like Panama, Porto Rico, and, possibly the Isle of Pines. Coryphas do poorly in Florida.



Two pound fruit of Cherimoya (*Annona cherimola*). Exquisitely flavored sub-tropical fruit.



Japanese Udo (*Aralia cordata*). The full grown ornamental plant and the young shoots blanchd under a tile ready to cut.

### **COTONEASTER FRIGIDA.**

Beautiful, large, deciduous shrub, 20 feet high, native of the Himalaya mountains. Leaves oblong, pointed at both ends, glabrous above, tomentose beneath when young; flowers white, in spring, pubescent, very numerous, in long-peduncled cymes; fruit scarlet. Not hardy in the Northern States.

### **36661. COUTAREA HEX- ANDRA.**

Quina de Pernambuco. Small, deciduous, ornamental tree from woods of Paraguay and Brazil, growing to 20 feet in good soil and said to possess medicinal properties similar to cinchona. Covered in spring with sweet yellow flowers. Withstands temperature of 25° F.

### **28606. CROTALARIA CAN- DICANS.**

From Dr. J. C. Willis, Peradeniya, Ceylon. A leguminous plant of erect habit of growth, 3 to 4 feet tall, bearing masses of ornamental, bright yellow flowers. The plants thrive best in a light, rich soil and are recommended as cover crops and soil renovators and for trial as ornamentals.

**35297. CRYPTOMERIA JAPONICA.** From Frank N. Meyer, Mukden, Manchuria. Most noted avenue tree of Japan. More used by them in reafforesting denuded lands, and for timber purposes, than any other tree. Is being tested in the sheltered valleys of Manchuria. Can be planted more densely than other evergreen conifers. Adapted to California redwood region.

**31365. CUCUMEROPSIS MAN-  
NII (?)** Kiffy. Procured through Mr. Henry Stewart, Liberia, Africa. A cucurbitaceous plant bearing gourd-like fruits about the size and shape of a goose egg, the seed of which when parched and ground, produce a delicious condiment.

**CUCUMIS MELO.** Muskmelon or Canteloupe. Varieties of muskmelon more or less accurately described have been received from many countries, and selections of these will be sent out for trial to applicants having facilities for experimenting with them. Seeds are from Spain, Persia, China, Bolivia, Peru, Greece, Russia, Turkestan, Turkey, Brazil, Malta and Egypt. Descriptions will accompany seeds.



**36778. CUCURBITA MAXIMA.**  
Squash. From Frank N. Meyer, Kalgan, China. A large, ribbed winter squash of yellow color with green blotches; known by the Chinese as "Hsi ghu lu," meaning, western squash. Of value specially for the semi-arid sections of the United States.

**37132 AND 37133. CUCURBITA PEPO.** Squash. From Dr. Gustav Eisen, Rome, Italy. A peculiar kind of squash which is eaten green and while the flower is yet adherent to the fruit, and never when the fruit is ripe. It is most delicious when boiled and seasoned with fresh butter, and is fully equal to tender green peas, though of a different flavor.

**36986. CUDRANIA JAVANENSIS.** From S. J. Tutcher, Hongkong, China. A thorny shrub or tree, which can be utilized for hedges. Related to Osage Orange. Fruits bright orange; one inch in diameter; sweet, rather insipid flavor, but quite as good as many others which are eaten. Possibly new hybrids may be produced with Osage Orange, or the Chinese *Cudrania tricuspidata*.

34493. CUDRANIA TRICUSPIDATA. Che or Tcho Sang. From central China, collected by E. H. Wilson. Close relative of Osage orange, with which very vigorous hybrid has been made in France. Leaves considered superior to mulberry for silkworms, making finer silk. Fruits pink, size of large plum; edible, sweet, but without much character. Hardy in Georgia.

35639. CYDONIA CATHAYENSIS. Mu Kua. From Frank N. Meyer, Tsinanfu, Shantung, China. Chinese quince. A shrub or small tree, the fruits of which are prized for their strong, pleasant aroma. Used in China for perfuming rooms; also for preserves. Leaves assume scarlet fall coloring. Probably not hardy north of Philadelphia, except in sheltered locations.

33213 & 33214. CYDONIA OB-  
LONGA. Quince. From Pedro Giraud,  
Granada, Spain, 1912. Antequera.  
Oblong variety, smooth and well form-  
ed, with fine, mellow flesh, considered  
the best of all varieties of quinces.  
Spanish quinces are famous for their  
high quality and the best are said to  
come from Antequera

**36934. CYPHOMANDRA BETA-  
TACEA.** Tree Tomato. From La  
Guaira, Venezuela, through Thomas  
W. Voetter. Large-leaved, half-woody  
plant or small tree of Solanum family.  
Cultivated for its egg-shaped fruits,  
of reddish color and firm, tomato-like  
flesh, of musky-acid flavor. Used for  
preserves or fruit salad. Can be fruit-  
ed in greenhouse; possibly even out-  
side south of Atlanta.

**36257. DAHLIA SP.** Mexican  
Wild Dahlia. From Contreras D. F.,  
Mexico, through Wm. Brockway.  
Seedlings from seed collected from the  
true wild dahlia, growing on sides of  
Ajusco mountain. Probably all single-  
flowered forms. Colors variable, in-  
cluding red, orange, lemon, violet and  
white. Very vigorous and floriferous.  
Crossing with cultivated dahlia might  
produce new and valuable varieties.

**38786. DAUCUS CAROTA.**  
Carrot. From Frank N. Meyer, Sianfu,  
China. A long, blood-red carrot of  
special value for pickling purposes on  
account of its attractive color. It is  
called by the Chinese, Hong tiao loba,  
meaning, "red stick root." Thrives  
best on deep, rich, sandy soils which  
retain moisture well.

**34079. DECKENIA NOBILIS.**  
From P. Rivaly Dupont, Seychelles  
Islands. A tall palm often growing to  
a height of 120 feet in the Seychelles  
Islands. Recommended for lawn and  
avenue planting.

**37218. DIMORPHOTHECA  
SPECTABILIS.** Cape Marigold.  
From George Thornecroft, Barberton,  
Transvaal. A beautiful perennial, two  
feet high, native of the Transvaal, ap-  
pearing in stony, mountainous places  
soon after the first rains in October.  
Its magenta flowers make it attractive  
for borders, if planted where its color  
does not clash. It succeeds in any good  
soil.

**16921. DIOSPYROS KAKI,** Tamo-  
to. Persimmon, from Frank Meyer,  
Ming Tombs Valley, near Pekin, China.

Fruit thick skinned, seedless unless  
cross-pollinated; sometimes 4 inches in  
diameter, with characteristic furrow  
around it. Nonstringent as soon as  
mellow but while still firm. May  
prove hardy as far north as Washing-  
ton, D. C.

**35084. DIOSPYROS MONTANA.** Persimmon. From Colombo, Ceylon, through C. Driberg. A tree often with spines on trunk and large branches. Young branches softly pubescent; male flowers in three-flowered cymes or panicles; female flowers solitary. Fruit globose, one-half to one and one-half inches in diameter, glabrous and shining. Bees very fond of flowers. Probably tender.

**36166. DIOSPYROS TEXANA.** Mexican Persimmon. From San Antonio, Texas, through R. E. Blair. Shrub or small tree found in river valleys in Texas and Northern Mexico. Bears black fruits which are sweet and edible when fully ripe. Interesting for gardens and parks and for breeders. Experimentally as stock. Hardy only in the South.

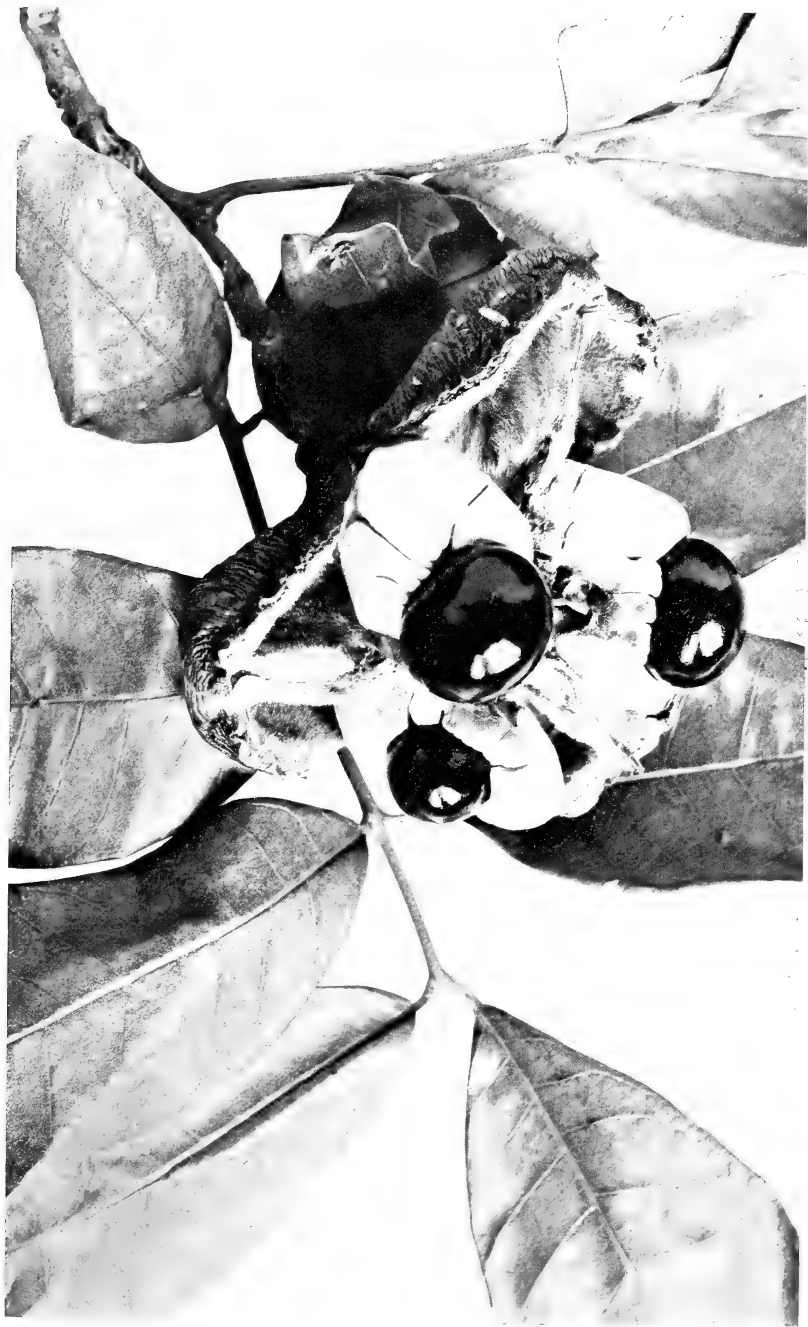
**36813. DODONAEA VISCOSA.** From Erkowit, Suakin, Sudan, through S. C. Mason. An interesting hedgeplant, suitable for California and Florida; responds to shears perfectly; when taken in hand early, makes compact wall clear to the ground. Transplant seedlings carefully. Called "Tattas" by the Sudanese. Leaves sour and bitter, called "Switch Sorrel" in Jamaica.

**19416. DURANTA SP.** From F. N. Meyer, Tang-hsi, China. Small ornamental evergreen tree, densely headed with rather small glistening green leaves, and black berry-like fruits in the spring. The trunk is exceedingly spiny and may make a good hedge plant in the mild-wintered regions of the United States.

**ELAEAGNUS ANGUSTIFOLIA,**  
Oleaster. From Frank Meyer, Batoum, Caucasus.

Very ornamental, deciduous shrub, or small tree, with narrow, willow-like leaves and handsome, fragrant, yellow flowers. The sweet, edible fruits are reddish-brown and resemble slightly a small date.

**35581. ELAEIS GUINEENSIS.**  
African Oil Palm. From Dondo, Angola. Africa, through W. P. Dodson. Vast numbers of this palm occur wild on the west coast of Africa, supplying a great industry in palm oil. Seeds are from so-called "Sombo" variety, with small nut, thick meat, yielding large amount of oil.



The Akee, (*Blighia sapida*). The cream yellow aril below the seeds when fried is more delicate than fried brains.



Patch of Pe-tsai or Chinese Cabbage (*Brassica pekinensis*) after first frost in Maryland. A Tientsin strain which forms long heads and has little cabbage odor when cooked. Seed planted in July. S.P.I. 34216.



**31309. ELEPHANTORRHIZA  
ELEPHANTINA.** From Transvaal,  
South Africa. Presented by J. B. Davy.  
Small shrubby plant with large club-  
shaped roots very rich in tannin. Fol-  
iage eagerly eaten by cattle. Seeds  
ripen in the pods after stems have been  
killed by frosts.

**35098. ENTELEA PALMATA.**  
Whau Tree. From Alwin Berger, La  
Mortola, Ventimiglia, Italy. A beau-  
tiful New Zealand tree with leaves  
resembling mulberry leaves, 10 inches  
long and white flowers one inch  
across, borne in drooping clusters;  
fruits dark brown with long bristles.  
Becoming rare in New Zealand. Wood  
only half the weight of cork. Recom-  
mended for life-belts.

**35591. ENTEROLOBIUM  
CYCLOCARPUM.** "Quinacastle."  
From Don Nat. O. y Osuna, Noria,  
Sinaloa, Mexico. An evergreen shade  
and timber tree which grows to great  
size, the trunk often being four feet or  
more in diameter. The wood is said  
to be bug and worm proof and is in  
demand for making boxes, chests and  
trunks.

### **EREMOCITRUS GLAUCA.**

Australian Desert Lime. Drought resistant, evergreen shrub or small tree, with small, leathery leaves and irregularly formed fruits about one-half inch in diameter, with sweetish, edible peel. The fruits are preserved or the acid juice used for making an agreeable, refreshing drink. Probably the hardiest of all evergreen citrus fruits.

### **31819. ERUCA SATIVA.**

Received through Mr. Frank N. Meyer, Oasis of Samdu, Chinese Turkestan. "Sa-un." A variety of seed, the oil of which is used both for culinary and illuminating purposes. To be tested as a possible crop for the inter-mountain regions.

### **36009. ERYTHRINA ARBOR-ESCENS.**

Coral Tree. From Wilson Popenoe, Darjeeling, India. Most conspicuous flowering tree in Darjeeling. Leaves persist while tree is in flower; do not fall and leave the branches bare. Brilliant scarlet blooms; spikes a foot long, reminding one of Royal Poinciana. Hardy where occasional snow falls. Should succeed in Southern California and Florida, if not too dry.

**36122. ESCALLONIA PUL-  
VERULENTA.** From Concepcion,  
Chile, through W. F. Wight. The  
escallonias are considered among the  
most useful shrubs in use in Califor-  
nia. They are evergreen shrubs or  
trees, blooming late in fall and early  
in winter when flowers are scarce.  
They stand pruning and are easily  
transplanted and propagated by  
cuttings.

**36618. EUCALYPTUS CRE-  
BRA.** Iron-bark Eucalypt. One of  
the most highly valued timber trees  
of Australia. Picturesque tree with  
straight, even trunk, 100 feet in height.  
Only iron-bark succeeding in dry, hot,  
interior valleys of Southwest. With-  
stands temperatures of 18° F. and 118°  
F. Wood hard, tough, elastic, durable  
under ground; much used for posts,  
railway ties, piles, wagons, etc.

**36620. EUCALYPTUS GUN-  
NII.** Cider or Sugar Gum. Received  
through Forest Service, from Aus-  
tralia. One of the hardest of the  
Eucalypts; even growing in eastern  
Scotland. Withstands temperature of  
20° F. Too crooked for good timber.  
Promising as a forest cover for moun-  
tain situations with cool summer tem-  
peratures. Wood worthless for posts.

**36621. EUCALYPTUS STUARTIANA.** Apple-scented Gum. From Australia, through Forest Service. Small-sized eucalyptus, standing low temperature of 10° F. thriving best along sea coast as wind-breaks and shade in ravines and on fairly moist mountain slopes. Timber hard, durable underground; good for fuel. Deserves trial farther north than other species will grow.

**37017. EUGENIA LUSCH-NATHIANA.** Pitomba. From Bahia, Brazil, through Dorsett, Shamel and Popenoe. Compact, handsome, 20-foot evergreen tree, bearing deep orange fruits one inch in diameter, crowned with persistent calyx; skin thin, enclosing soft, melting, bright orange, juicy flesh, with acid, very aromatic flavor. Cooking rather than dessert fruit, making excellent jellies.

**36713. EUGENIA TOMENTOSA.** Cabelluda. From Rio, Brazil, through Dorsett, Shamel and Popenoe. Handsome, evergreen fruit tree, bearing golden-yellow, down-covered fruits in great abundance. These are about the size of gooseberries and are eaten as one would eat a grape. Flavor suggests May Appie. Seeds are very large, leaving little room for the juicy pulp. Worthy of trial in Florida.

**EUGENIA UNIFLORA.** Pitanga, or Surinam Cherry. Shrub of the Myrtle family, already grown in California and Florida as the Surinam Cherry. Its dark evergreen foliage, freedom from disease and showy red fruits, make it a very promising plant for hedge production. The fruit is used in Brazil for making sherbets, jams, and preserves. A delicious fruit when thoroughly ripe.

**37541. EUONYMUS SP.** From Nan to tchu, near Sianfu. China, through Frank N. Meyer. Variety of Cardinal's Cap, climbing against walls and tree trunks. Leaves glossy green and bronze-red, persistent through winter. Stands some shade but will grow in full sun. Of value as a wall cover plant for the base of city houses in mild-wintered regions.

**37140. FICUS MACROPHYLLA.** Moreton Bay Fig. From Brisbane, Australia, through E. C. Joss. Perhaps the grandest avenue tree in Australia. A large-leaved, evergreen fig tree, which has already proven itself adapted to California conditions. In poor soil it is a slow grower, but, nevertheless, it is worth planting for avenue purposes. Should be tested in south Florida.

**33104. FICUS RUBIGINOSA.**

From Sydney, New South Wales. Presented by Prof. J. H. Maiden. A fig tree forming a dense shade and growing in frost-free regions to a height of 60 to 80 feet and a diameter of 4 to 5 feet. Timber soft and brittle. Foliage will probably furnish food for cattle.

**29359. FICUS UTILIS.**

M'pamah, from Lourenco Marques, Portuguese East Africa. Through O. W. Barrett. Medium-sized tree of the open bush, preferring sandy land. Cut off near the ground it produces clean young coppice branches of rapid growth; the bark is removed from these and when beaten forms the native cloth in M'Chopes district. Cloth softer than South Sea "tapa".

**35005. FRAGARIA CHILO-**

**ENSIS.** Strawberry. From W. F. Wight, Santiago, Chile. Wild Chilean strawberry of good quality and size, more conical in shape than the wild strawberry of the eastern United States, which may possibly prove valuable for its fruit or in the work of cross pollination for the production of improved varieties.

**36497. GARCINIA OBLONGIFOLIA.** From Wm. J. Tutcher, Hong Kong, China. A tree related to the famous mangosteen, which because of its habitat in a subtropical, much cooler climate than that to which the mangosteen is supposed to be confined, may prove suitable as a stock for the latter in Hawaii, Porto Rico or even Florida. Apparently indigenous to Island of Hong Kong.

**GREIGIA SP. Chuno.** From Quilan, Chile. Collected by W. F. Wight. A plant related to the pineapple; bears seed capsules containing a sweet juice which is considered a great delicacy by the natives. Called by them Chuno. Culture suggested similar to that of the pineapple. Formerly classified under *Billbergia*.

**HELIANTHUS ANNUUS.** Russian Oil Sunflower. Short season annual, 5 to 7 feet high, with ornamental flowers, followed by large heads containing the numerous seeds, from which a high grade table and valuable drying oil for paints is extracted by pressure. Cultivation comparatively simple. Requires fairly rich and moist but well drained loamy soil and dry atmosphere when maturing.

### **34615. HIBISCUS MUTABILIS**

Japanese Rose Hibiscus. Presented by Gustav Eisen, Rome, Italy. Large shrub or small tree growing to a height of 10 feet or more and bearing great numbers of beautiful rose-colored, single flowers, 6 inches or more in diameter.

### **HIBISCUS SABDARIFFA,** Roselle or Jamaica Sorrel.

Biennial, 3 to 5 feet high, commonly cultivated in warm countries. Produces an abundance of large, bright red calyces in autumn. These, as well as the young leaves, are considered by many as superior to cranberries for sauce and jelly making. Very ornamental when in bloom and in fruit. Sensitive to frost.

**35099. HYPERICUM HOOKERIANUM.** From Prof. Alwin Berger, La Mortola, Ventimiglia, Italy. A small, ornamental bush of much promise, native of the elevated regions of northern India and the Himalayas, from 6,000 to 12,000 feet, but not perfectly hardy in northern localities. The bush has evergreen leaves and with its large single flowers of a rich yellow color, is very showy and attractive.





Flower and Fruits of *Carissa grandiflora*; one of the most attractive hedge plants for frostless regions. The fruits make a sauce remarkably like cranberry sauce.



Fruits of the Papaya (*Carica papaya*). Resembles a golden  
fleshed melon with black seeds. Sweet, with characteristic  
musky flavor. Contains papain, a remarkable digestive. Popular  
breakfast fruit in Hawaii. Borne on tree whose unusual yielding  
capacity make it worthy of extensive trial and improvement.

**36760. INCARVILLEA SINENSIS.** From Fangshan, Chili, China, through Frank N. Meyer. A low, tender, ornamental perennial, belonging to the bignonia family, with long spikes of pretty, carmine-rose colored flowers. These probably will require more winter protection than that generally given herbaceous perennials. Test as dooryard and garden shrub through the south.

**18609. INDIGOFERA KIROLLOWII.** From Shan hai kwan, China. Collected by Frank N. Meyer. A hardy, shrubby perennial with delicate, feathery foliage and bearing in early summer masses of beautiful pink flowers in long racemes, suitable for dooryard planting in cities and for park and garden effects. Belongs to the pea family.

**37917. IPOMOEA FISTULOSA.** Bush Morning Glory. From Oliveira, Bahia, Brazil, through Dorsett, Shamel and Popenoe. Shrub common along the banks of the Rio Sao Francisco and in low, wet places growing to 15 feet in height. Slender branches; flowers funnel-shaped; 4 inches across; lilac-red, abundant bloomer. In California and Florida a desirable garden ornamental.

**19203. IPOMOEA HORSFAL-  
LIAE BRIGGSI.** A beautiful red-  
flowered evergreen morning-glory,  
native to tropical America. Suitable  
only for greenhouse culture in tem-  
perate climates, but may be made to  
bloom outdoors in late summer by  
plunging the potted plants into the  
ground in a sunny location after  
spring frosts are over.

**36765. IRIS ENSATA.** Iris.  
From Frank N. Meyer, Kalgan, Chi-  
na. A vigorously growing strain found  
in the gardens around Kalgan, where  
the leaves are used as an ever ready  
and handy garden tying material.  
Recommended for trial in the drier  
sections of the United States as a bor-  
der plant and for its fibrous leaves.

**33500. JASMINUM BEESI-  
ANUM.** Jasmine. Purchased from  
Amos Perry, Enfield, Middlesex, Eng-  
land. A new Chinese novelty, the  
only red Jasmine yet known. It is a  
quick grower and quite hardy. The  
flowers are very fragrant and of a  
bright, deep cherry red. Profuse  
bloomer.

**JATROPHA CURCAS.** Physic Nut. Native of tropical America. Low spreading euphorbiaceous tree, sometimes used as a hedge plant. The fruit is fleshy, about the size of a filbert, containing white kernels with almond-like taste, but violently purgative. **ANTIDOTE: DRINK QUANTITIES OF COLD MILK.** Oil has been used as varnish when boiled with oxide of iron.

**36082. JUGLANS REGIA SINENSIS.** English Walnut. From Changli, Chili Province, China. Through Frank N. Meyer. The erroneously called Manchurian walnut, because coming from near the great wall of China, merely a strain of the English or Persian walnut. Preliminary tests indicate that it is hardier than the strains from southern Europe and northwest Asia.

**34352. JUNIPERUS CEDRUS.** Canary Island Juniper. From Tenerife, Canary Islands, through George V. Perez. A tall tree, formerly abundant in the sub-Alpine districts and higher valleys of the Canary Islands, but now quite rare there, having been cut for its excellent timber. Very similar to *Juniperus oxycedrus* but possibly better adapted to cultivation in southern California and in Florida.

**18577. JUNIPERUS CHINENSIS.** Chinese Juniper. From Shan Hai Kwan, China, through Frank N. Meyer. Seedling from trees of this hardy species found growing on a very exposed dry place. As there are many forms of this species, these may prove to be especially picturesque shaped trees. The species is one of the most beautiful for dooryard and garden planting.

**27497. JUNIPERUS PACHYPHLOEA.** Checkered-bark Juniper. From Alamo National Forest, New Mexico. Ornamental conifer, 60 feet high, with small, bluish leaves and spreading branches. The light wood is soft and close-grained; the thick brown bark divided into scale-like plates. Fruits edible, mealy,  $\frac{1}{2}$  inch long. For ornamental planting in dry, mild wintered sections.

**27505. JUNIPERUS PROCERA,** East African Cedar. From Raphael Zon, Washington, D. C.

Tall conifer, 100 feet high, from high altitudes of British East Africa, with straight trunk, yielding durable and valuable timber similar to that used in lead pencils. For testing as an ornamental shade tree.

### **38698. KIGELIA PINNATA.**

**Sausage Tree.** From Port Louis, Mauritius, through G. Regnard. Large, spreading ornamental tree of Nubia, under which the negroes celebrate religious festivals. Remarkable for its heavy, extremely hard, sausage-like fruits, which hang at the ends of two-foot long stalks. Leaves so harsh as to be used for polishing metal. Adapted to South Florida as shade tree.

### **34665. KOKIA ROCKII. Cotton**

**Tree.** From Mr. Jos. F. Rock, Honolulu, Hawaii. An almost extinct relative of the cotton plant and as such may be valuable for breeding purposes. Should by all means be saved from extinction. A tree 15 to 25 feet high, found growing on exceedingly arid land and bearing large scarlet flowers of striking beauty. The sap is used for dyeing.

### **LAGENARIA VULGARIS, South African pipe gourd.**

Annual vine suitable for growing south of New York. To make pipes let gourds mature, cut off crooked necks, clean inside and scrape outside, fit with plaster or meerschaum bowl and rubber mouthpiece, as described in Circular No. 41, Bureau of Plant Industry. Culture like that of cucumber. Straw under growing gourds prevents decay.

**36598. LAGENARIA SP.**  
Agusi Gourd. From Lagos, Southern Nigeria, through J. A. de Gage. Rank vine producing immense thick-walled gourds with very large oily seeds from which oil is extracted and employed as constituent of famous dish called Palaver Sauce. A vine grown near Washington bore single fruit weighing 55 pounds. Convenient for household use.

**32309. LAGERSTROEMIA SPECIOSA.** From Mr. O. B. Burrell, superintendent, Linao Experiment Station, Bureau of Agriculture, Linao, Bataan, Philippine Islands. A strong-growing deciduous shrub, reaching a height of 10 to 25 feet, producing an abundance of fringed flowers in spring and summer.

**24431. LANSIUM DOMESTICUM.** Doekoe from Buitenzorg, Java. Presented by Dr. M. Treub, Director. One of the most refreshing fruits of the Dutch East Indies. It is about the size of a French prune, of a straw color, with a pulp of a peculiar almost waxy texture and slightly subacid flavor. Seed intensely bitter and should be avoided in eating.



**33348. LEUCAENA GLAUCA.**

Presented by Mr. G. Regnard, Port Louis, Mauritius. A very interesting leguminous shrub, common in Mauritius, the leaves and seeds highly valued as a fodder for cattle, the seeds being boiled and crushed for that purpose.

**36762. LIGULARIA SP.**

Collected by Frank N. Meyer from Hsiao Wu tai shan, China. A large-leaved variety of this ornamental perennial, remarkable for its large, striking foliage. Introduced as an ornamental for use along water-courses in parks in the cooler sections of the United States. May prove hardier than the species already in cultivation in America.

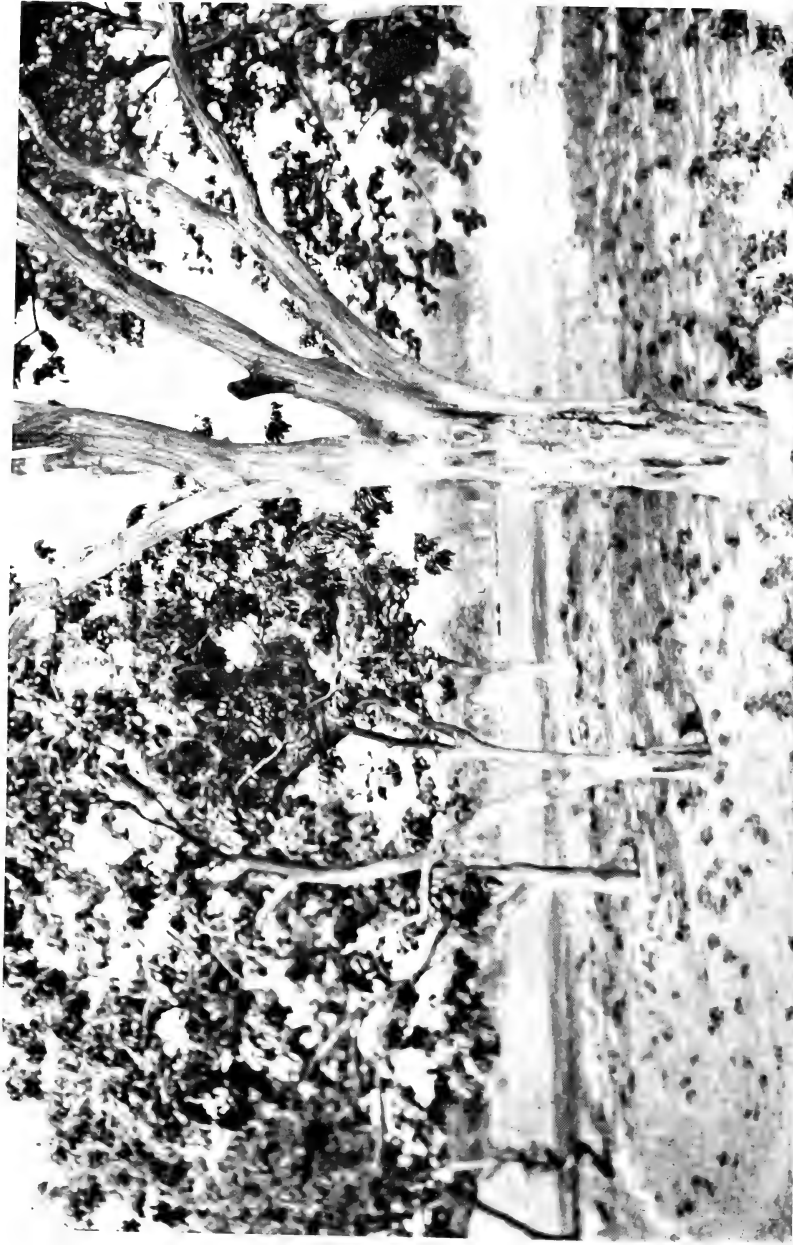
**26767. LIGUSTRUM SP.**

Through Mr. Frank N. Meyer, from Sebastopol, Crimea, Russia. A low, bushy, semi-evergreen privet, found growing on dry, rocky mountain sides in somewhat shady places. Recommended as a garden shrub in semi-arid regions of the United States.

**LONICERA MAACKII.** Honeysuckle. A beautiful, rapid-growing, flowering shrub, attaining a height of ten feet, with spreading branches, ovate-elliptic leaves, in the axils of which are borne clusters of trumpet-shaped flowers, white on first opening, rapidly turning yellow.

**37644. LONICERA RU-  
PRECHTIANA.** Honeysuckle. From Director, Botanic Garden, Petrograd, Russia. Twelve-foot high shrub with dark green foliage and pure white flowers on long flower stalks. Fruits red or yellow. Hybridizes easily with *Lonicera tatarica* and because of the rarity of the pure species and its unusual hardiness, recommended to experimenters in the northwest.

**36748. LONICERA SP.** Honeysuckle. From Frank N. Meyer, Hsiao Wu tai shan, China. A bush-honeysuckle, of large growth and decidedly ornamental habits. Leaves are large, dark green, and set off beautifully the bright red berries borne in pairs on long, erect peduncles. This species is valuable as an ornamental shrub in the cooler sections of the United States.



Chinese Chestnut Trees (*Castanea mollissima*) near San Tun Ying, China. The wounds made by the chestnut bark disease are healing, indicating high degree of immunity. Grown for its nuts only which are large and of fair quality.



The Chick-Pea or Garbanzo (*Cicer arietinum*). A legume apparently adapted as a rotation crop before wheat in dry farming regions. In Spain the Garbanzo is one of the most important grain crops. Short season varieties mature in Northwest.

**36764. LYCHNIS CORONATA.** From Frank N. Meyer, Hsiao Wu tai shan, Chili Province, China. Half-hardy, rather delicate perennial, native of China and Japan (often biennial under cultivation). Summer or spring bloomer. Flowers scattered or in open panicles; very large, sometimes two inches across; brick-red or cinnabar color. Of value in door-yard and garden borders.

**27153. MALUS SYLVESTRIS.** Apple. Received through Mr. Frank N. Meyer, from near Kopetnaris, Caucasus, Russia. A white apple said to grow very large, some fruits weighing several pounds each. The trees are able to endure high summer temperatures, but require mild winters. To be tested in the southern sections of the United States.

**27108. MALUS SP.** From Mr. E. C. Parker, Mukden, Manchuria. Common in Manchuria as far north as 45°. Very hardy and healthy. Attains a height of 15 feet and bears small fruit one-half to three-quarter inches in diameter, resembling a thorn apple. Valuable in America for grafting or budding purposes only. Grafted on apple stock from Washington.

**30309. MALUS SP. Apple.**

From F. N. Meyer, Khotan, Chinese Turkestan. "Muzalma." Of medium size; color yellowish-green, of a peculiar glassy texture; taste sweet but somewhat insipid; of good keeping qualities; ripens in autumn; withstands considerable drought and alkali. (Meyer.)

**30326. MALUS SP. Apple.**

From Khotan, Chinese Turkestan, through Frank N. Meyer. A large variety of the so-called Muzalma apple (S. P. I. No. 30309). This latter is of medium size, yellowish-green; peculiar glassy texture; sweet taste, somewhat insipid; good keeping qualities, ripening in autumn; able to withstand considerable drought and alkali. Introduced for trial in southwest.

**30327. MALUS SP. Apple.**

From Frank N. Meyer, Khotan, Chinese Turkestan. Variety of apple called Kizil Alma. Because of its ability to stand drought, soil alkali, and neglect, it may prove of value under irrigation in the hot desert regions of our Southwest. Fruits medium-large, of red color throughout, sweet, somewhat insipid. Not yet fruited out in America.

**30353. MALUS SP. Muz-Alma**  
Apple. From Karawag, Chinese Turk-  
estan, through Frank N. Meyer. Varie-  
ty thought to be identical with 30309,  
from Khotan, with medium-sized,  
yellowish-green fruits of peculiar  
glassy texture; taste sweet but some-  
what insipid; good keeping qualities;  
ripening in autumn; able to withstand  
considerable drought and alkali. Be-  
comes spreading when old.

**31689. MALUS SP. Wild Apple.**  
From F. N. Meyer, Saisansk, Southern  
Siberia. An extra hardy, drought and  
cold resistant variety of wild apple,  
valuable for the production of hardier  
types of cultivated apples.

**31690. MALUS SP. Apple.** From  
Saisansk, Southern Siberia. A small  
apple of bright red color, and possess-  
ing a most excellent flavor. Grown  
sparingly near Saisansk; apparently  
an improved variety of *Malus baccata* or  
perhaps a hybrid. Is locally sold dried  
or as a sweetmeat and for compote  
and preserves.

### **26323. MAYTENUS BOARIA.**

From Mr. Jose D. Husbands, Limavida, Chile. Beautiful shade tree and hedge plant, which succeeds well on otherwise bare and dry lowlands. The hard wood is fine-grained and elastic, mostly plain white or pale yellow, sometimes beautifully veined with red and olive.

### **34715. METROSIDEROS TOMENTOSA.**

Downy Rata. From C. J. Clapham, Wellington, New Zealand. Perhaps the most magnificent plant in the New Zealand flora, according to Kirk. A handsome tree, seventy feet high, bearing brilliant scarlet flowers. Peculiarly a seaside tree, occurring on rocky cliffs of the North Island of New Zealand. Native name Pohutukawa means "spray-sprinkled."

### **35323. MIDA ACUMINATA.**

Quandong. From Sydney, Australia, through Anderson and Co. A beautiful, drought-resistant, evergreen tree, 30 feet tall. Its sour, globular, reddish fruit, called "native peach," and borne in immense profusion, is eaten stewed or preserved; resembles guava in flavor. Nuts edible, nutritious, and so oily as to burn readily. Once important food of Australian natives.



### **MYRCIARIA CAULIFLORA.**

Jaboticaba. From Rio de Janeiro, Brazil. Collected by Dorsett, Shamel and Popenoe. Remarkable fruit tree 40 feet high. Popular among Brazilians. Maroon-purple, thick-skinned fruits resembling grapes with delicious, vinous, white pulp, borne on trunk, branches and twigs in such numbers as at times almost to conceal them. May stand light frosts.

### **30961. NAUCLEA ORIENTA-**

**LIS.** Received from Mr. G. Regnard, Port Louis, Mauritius. A large, yellow-flowered, rubiaceous tree related to the cinchona, found from the Malay Peninsula to northern Australia. Yields a hard, black, heavy timber which is capable of a very high polish and is extensively used in the manufacture of furniture.

**34080. NEPHROSPERMA  
VANHOUTTEANA.** From P. Rivaly Dupont, Seychelles Islands. A palm, often growing 35 feet high, found in open places and along streams in the Seychelles Islands.

**38403. NUNNEZHARIA  
PACAYA.** Pacaya Salad Palm.  
From Coban, Guatemala. Collected by  
O. F. Cook. A slender, small palm  
cultivated generally for the young  
male inflorescences called Pacayas  
by Guatemalans, which resemble  
green corn in the husk; 4 to 6 pacayas  
are produced each year; begins bearing  
the fourth year; makes excellent raw  
salad. Try under shelter in Florida.

**12910. OLEA EUROPAEA.**  
Chitoni Olive. From Tunis, North  
Africa, through T. H. Kearney. The  
principal oil-producing olive of North-  
ern Tunisia, but not so well adapted  
to the drier, hotter regions as other  
sorts like the Chemlali. For trial in  
California.

**13567. OLEA EUROPAEA.**  
Chemlali Olive. From Tunis, North  
Africa, through Thomas H. Kearney.  
Small oil-producing olive, grown in  
immense plantations around Sfax  
where only from 5 to 10 inches of rain  
falls, irrigated for first two or three  
summers only. Orchards created by  
planting pieces of wood from bases of  
old trees. Promising variety for  
California, because of robust growth.

**33783. OLEA FOVEOLATA.**

Olive. From Chas. P. Lounsbury, East London, Cape Colony. Shrub, native of south Africa, twelve feet in height, ashy-gray branches; smooth, leathery, oblong-elliptic leaves; small flowers in short axillary cymes, and smooth oblong fruits half an inch long. Introduced for experiments as a possible stock for the cultivated olive.

**36059. OLEA VERRUCOSA.**

Wild Olive. From Simondium, near Paarl, Union of South Africa, through C. W. Mally. Wild, close relative of cultivated olive, for which it has been successfully used experimentally as a stock. The tree grows 20 feet high and 18 inches in diameter. Fruit small, one-quarter inch long, dry. Introduced for stock experiments.

**29183. OROXYLON INDICUM.**

From H. M. Curran, Manila.

Oriental tree of extremely rapid growth, with large, glabrous leaves and showy, white flowers, striped with purple; of fetid odor. The wood is useful for the manufacture of matches. For testing as an ornamental tree in nearly frost free regions of the United States.

**34174. OXYANTHUS PYRIFORMIS.** From Durban, Natal, South Africa, through J. Medley Wood. Evergreen shrub, allied to the Cape Jasmine (*Warneria florida*), remarkable for its long corolla tubes sometimes six inches long, surmounted with five long, white narrow petals. Should be tested as an ornamental flowering shrub in gardens and parks in southern California and Florida.

**34260. PANCRACTIUM CANARIENSE.** From Teneriffe, Canary Islands, through George V. Perez. Bulbous, lily-like plant, with graceful iris-like leaves and umbels of large white flowers. Probably hardy only in southwest. Suitable for dooryards and flower-garden borders. A related species, (*P. maritimum*,) introduced into California by Franceschi.

**35035. PARKIA TIMORIANA.** Cupang. Very large, leguminous, ornamental forest tree, 115 feet high, indigenous to the Philippines, with vase-shaped, wide-spreading, open crown; fern-like leaves with very small leaflets; small white flowers in dense, pear-shaped panicles; black flattened pendulous pods, 18 inches long.



The Tamopan Persimmon (*Diospyros kaki*).  
Large-fruited variety from Ming Tombs valley.



Fruiting branch of the Chinese Che Tree (*Cudrania frutescens*).

Closely related to the Osage orange but with small pink sweet edible fruits. Hybridized in France with the Osage orange but the character of the fruit borne by the hybrid is not known.

**27925. PASANIA CORNEA.**  
Oak. From Mr. W. J. Tutcher, Hong Kong, China. Ornamental, evergreen tree, producing extremely hard-shelled edible acorns, sweet, fine-flavored, highly esteemed by the Chinese as well as by Europeans. Young plants have lived through two winters in Washington. For testing in the mild-wintered regions.

**34642. PASANIA CUSPIDATA.** Evergreen Oak. From the Yokohama Nursery Co., Yokohama, Japan. Vigorous ornamental, evergreen tree, forty feet high, native of Formosa, Korea and milder regions of China. Branches slender; leaves smooth, oblong, pointed; acorns small, edible and sweet when ripe or after frost, boiled or roasted. Tree much used as a hedge plant.

### **PASSIFLORA LIGULARIS.**

A perennial vine, with evergreen, heart-shaped leaves and strikingly handsome green and purple flowers. Fruits medium-sized, roundish or oval, with soft, edible, sweetish pulp embedding numerous small seeds. Used in the preparation of cooling drinks, fruit syrups and desserts. For fruiting and breeding experiments.

### **36361. PASSIFLORA SP.**

Passion fruit. From Arequipa, Peru, through Mr. W. F. Wight. Vine, relative of the maypop of the South, but with fruits four inches long. Cultivated for its palatable fruits by Europeans as well as natives. Native name Tumbas. Introduced for trial in Florida and California and for breeding with the maypop to produce a hardy passion fruit.

### **PASSIFLORA SP. Passion fruit.**

From various sources. In Australia one species has become an extremely profitable fruit crop. In Chile and Peru another species is a popular table fruit. These introduced to cross with the southern maypop, a closely related perennial vine growing on poor soil. Hybridization has been accomplished between other species.

### **36017. PENTAPETES SP.**

From Mr. P. J. Wester, Linao, Bataan, Philippine Islands. A robust, sterculiaceous herb attaining a height of two meters. On account of its attractive scarlet flowers it makes a very good ornamental. Collected on the Island of Mindanao.



**36139. PERNETTYA MUCRONATA.** From Chile. Through Mr. W. F. Wight. A small ericaceous evergreen shrub with dark green foliage, bearing white or pinkish flowers and pink fruits, which make it a striking plant for sheltered dooryards and rockeries as far north as New York. Many varieties, little known here, are grown in Europe.

**PERSEA AMERICANA.**  
Avocado. A small semi-tropical American tree growing to about 25 feet, bearing maroon or green pear-shaped fruits from the size of a large orange to that of a muskmelon. The skin is thin and tender, and the seed large. The greenish-yellow pulp, which is chiefly used for salads, is of the consistency of firm butter, and has a decidedly nutty flavor which is most delicious.

**36623. PERSEA BORBONIA.**  
A large tree from the south Atlantic states with bark broken into flat ridges. Leaves are bright-green and lustrous above, glaucous beneath. Fruits small, of a lustrous dark blue or nearly black. For hybridization work or possible stock for the avocado.

**29485. PHOEBE NANMU.**

Nanmu tree from Yachow, Western China. Presented by Mr. W. F. Beamish.

Highly valued timber tree of great size, attaining 100 feet with a diameter of 5 feet. Wood in great demand for coffins and finishing fine buildings in China. Almost extinct and worthy of trial in moist, frostless regions. Probably of very slow growth. Formerly known as *Machilus nanmu*.

**36486. PHOENICOPHORUM BORSIGIANUM.**

From Mr. P. Rivaly Dupont, Seychelles Islands. An ornamental palm common in the Seychelles Islands, with a spiny stem and orange-red fruits, requiring a very moist atmosphere.

**24760. PHYLLOSTACHYS BAMBUSOIDES.**

Madake Bamboo. From Nagasaki, Japan, through Wm. D. Hills. Best timber bamboo in Japan, growing to 60 feet eventually; planted there in large groves on well drained, rich soil. Spreads underground, but easily controlled by ditches. Timber used for every conceivable purpose—ladders, basketry, fencing, stakes, crates, irrigating pipes, etc.

### **23233. PHYLLOSTACHYS SP.**

**Mao tsoh Bamboo.** From Frank N. Meyer, Tangsi, Chekiang, China. Large timber bamboo for grove planting in the south, attaining ultimately 100 feet; prefers rich, red loam mountain slopes; responds quickly to manure; requires continual mulch to induce grove formation. Most useful plant for temporary structures, ladders, fruit-tree poles, vine stakes, pipes.

### **23261. PHYLLOSTACHYS SP.**

**Chu tse Bamboo.** From Feng tai, near Peking, China, through Frank N. Meyer. Suitable for timber plantings southward, but deserves trial as ornamental as far north as Philadelphia. Valuable for ladders, furniture, tree props, stakes, fences, basketry; spreads rapidly by rhizomes, requiring deep ditches to check it. Requires continual mulch, good soil, careful planting.

### **29133. PHYTOLACCA ACIN-**

**OSA.** var. *esculenta*. A perennial found wild only in moist mountain forest undergrowth in Japan. The leaves are eaten boiled in miso soup by the native rural people; the root is somewhat poisonous and is used as a drug by the herb medical school; the berries are not edible.

### **33716. PIMENTA ACRIS.**

From Mr. G. Regnard, Port Louis, Mauritius. A myrtaceous tree, 45 to 50 feet high, with a straight trunk 15 to 24 inches in diameter. Furnishes a moderately hard and heavy wood, fine and compact in texture. From the dried leaves is obtained the principal ingredient of bay rum. Fresh leaves have the taste and odor of lemon.

### **36529. PINUS DENSIFLORA.**

Japan Red Pine. Picturesque park tree of slow growth, attaining a height of 50 feet. Not promising for timber as stems are often crooked. From seed collected near Mukden, in cold, dry Manchuria, by Frank N. Meyer. May prove more drought and cold resistant than trees from the moist climate of Japan.

### **38466. PINUS LEUCODERMIS.**

Austrian Pine. From K. Baicoucheff, Sophia, Bulgaria. Lofty evergreen tree, 100 feet tall, native of Balkan States, has dome-shaped crown, slender trunk and spreading branches. Grows in poor, chalky soil, and forms good shelter screens. Timber is resinous, elastic, tough, durable, long-grained, coarse, and easily worked.

**PISTACIA VERA.** Pistache or Pistachio. Small deciduous tree cultivated in Mediterranean region for its nuts, with characteristic green meat and delicate flavor, used extensively in confectionery; becoming a very popular table nut. The best varieties bearing large nuts grafted on special stock are to be tested under supervision. Promising new dry-land tree crop.

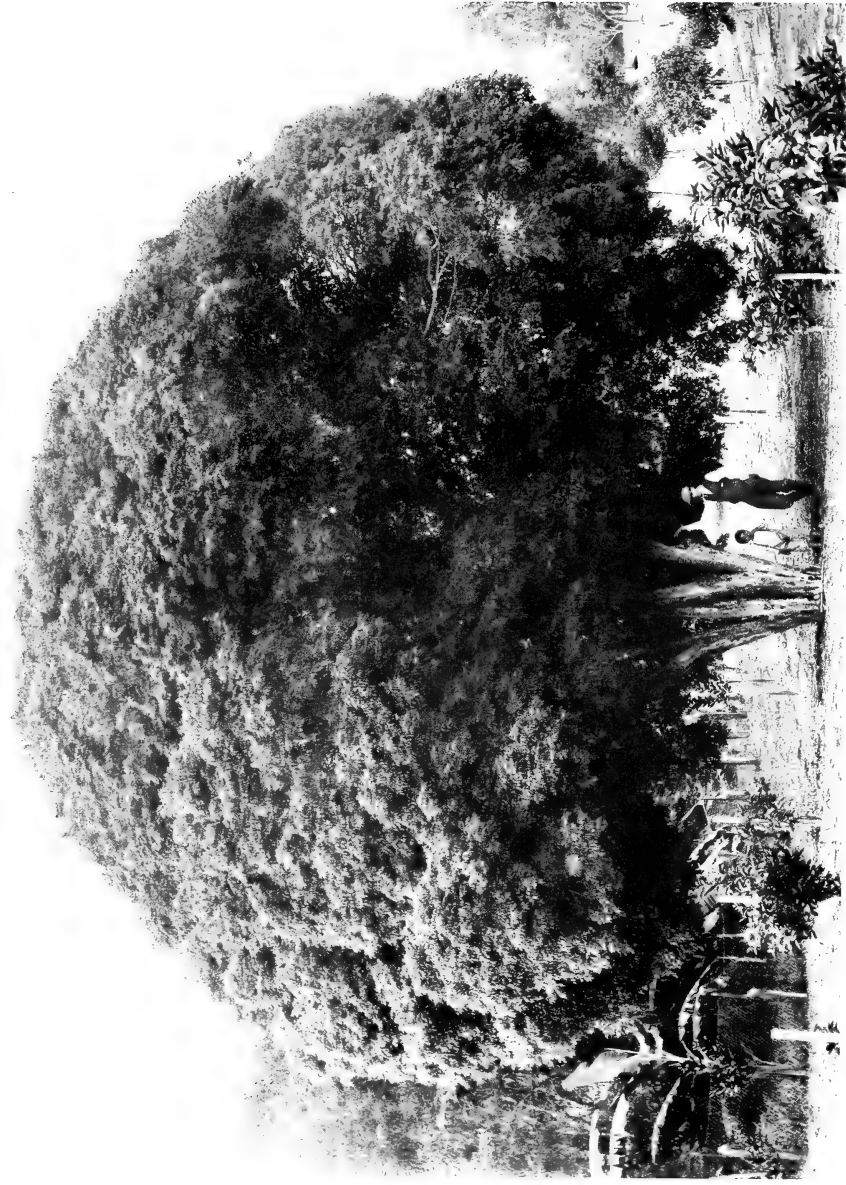
**30958. PITHECOLOBIUM SAMAN.** Rain Tree. From G. Regnard, Port Louis, Mauritius. Medium-sized, deciduous tree with spreading branches and pods resembling those of the mesquite bean, and well liked as fodder by cattle and horses. The tree flowers in early spring before bursting into foliage. For testing for ornamental and economic use in Florida and California.

**32915. PITHECOLOBIUM UNGUIS-CATI.** From Mr. Walter Fischer, Barbados. Very attractive, ornamental, small tree, much used as a border shrub and as a hedge plant. It is made conspicuous by its heavy burden of dense panicles of pods, open and twisted when ripe and showing the shiny, black, small seeds, to each of which is attached a white arillus. For trial in southern Florida.

36606. PLEIOGYNIUM SOLANDRI. From J. F. Bailey, Brisbane, Queensland, Australia. A moderate sized tree 40 to 60 feet high and trunk 2 to 3 feet in diameter. Timber, when first cut is soft, but afterwards becomes hard and tough. Possibly of use as a stock for less hardy anacardiaceous fruit bearing trees.

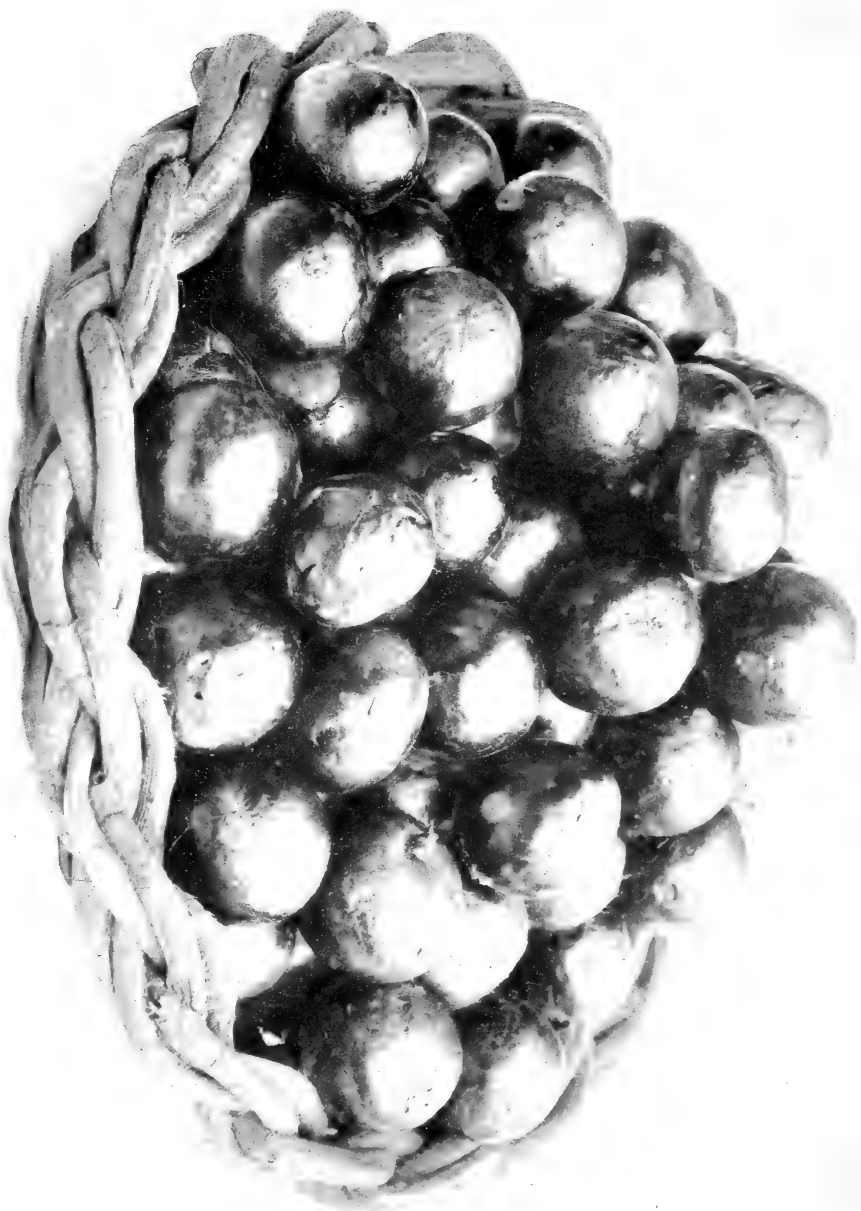
33243. PODACHAENIUM FRUTICOSUM. From Prof. Alvin Berger, La Mortola, Ventimiglia, Italy. A tall, composite shrub, native of southern Mexico and Central America. Highly esteemed on account of the large, sweet-scented foliage and lax terminal corymbs of daisy-like heads with white ray flowers.

20614. POPULUS BEROLINENSIS. Poplar. From Mr. Frank N. Meyer, Liesnoi, Russia. Var. Rossica. A very hardy variety of the common Berlin poplar, widely planted in and around St. Petersburg as a shade tree; mostly closely pruned when young, but of open habit of growth under ordinary conditions.



The Jaboticaba (*Myrciaria cauliflora*), a Popular Brazilian Fruit Tree.

The Jaboticaba, a Favorite Fruit of the Brazilians.





### **34793. POPULUS DELTOIDES.**

Cottonwood. From A. Woeikoff, Novospaska, Russia. As cottonwoods are such valuable trees on the Great Plains, and so variable, it is thought worth while to test this form from Simbirsk Province, Russia, in comparison with the American forms. It may have more vigor or show other characteristics of value in the northwest.

### **22861. POPULUS LAURIFOLIA.**

From Frank N. Meyer, Wutai-shan, China. White-barked poplar, growing at high altitudes and valuable for sand binding. Frequently planted along ravines to prevent erosion and damage to lands below. Suggested for similar use and avenue planting in this country. The young bark of the tree is green.

### **30147. POPULUS NIGRA.**

Lombardy poplar. Through Mr. Frank N. Meyer, from Bas-lengar, Chinese Turkestan, called "Tagh Terek." Grows to be very large and is singularly free from galls or diseases; especially well adapted to semi-arid conditions, and desert regions under irrigation. May prove unusually hardy.

**34798. POPULUS SIMONII.**

Poplar. From Novospaska, Russia, through A. Woeikoff. Rapid-growing poplar hardy as far north as Manitoba. Excellent windbreak tree, adapted to the Great Plains. This material, coming from a Russian source, may prove different from that already grown under this name in America.

**22363. POPULUS SP. Poplar.**

From Frank N. Meyer, Shiling, Chihli, China. A remarkable variety of the small-leaved Chinese poplar of very pyramidal habit; looks like the Lombardy poplar, but makes a more pleasing impression; thrives in a sandy, moisture-retaining soil.

**22447. POPULUS SP. Chinese**

Poplar. From Frank N. Meyer, Tai-djatsoa, China. An extremely slender but very graceful tree, suitable for grouping in parks and for forming backgrounds for other tall deciduous trees. The buds and young leaves exhale a pleasant balsamic odor. Partial to moist, sandy soils, succeeding especially well along water courses.

**26812. POPULUS SP.** Poplar.  
From Mr. Frank N. Meyer, Orianda, Crimea, Russia. Species with white trunk and remarkably pyramidal habit, attaining 80 feet. They branch out and lose their pyramidal shape when old. Of value in Western States for windbreaks and as ornamental park trees.

**29148. POPULUS SP.** Poplar.  
From Frank N. Meyer, Chinese Turkestan. A poplar found in clumps on sandy flats and in alkaline places. The tree apparently does not grow very large but is of value as a shade tree and for windbreaks in alkaline sections in the northern states. The trunks and twigs are of a greyish-white color.

**33206. POPULUS SP.** Chope  
Poplar. From Pedro Giraud, Granada, Spain, at the request of W. T. Swingle, of the Bureau of Plant Industry. Remarkable form of poplar with true lateral branches almost completely absent, allowing of very close planting. Rapid grower, producing large quantities of timber suitable for scaffolding or lumber for small packing boxes.

**34779. POPULUS SP.** Chinese Poplar. From Angers, France, through Charles Detriche. Coming from South China where the climate is warm and moist, this species may prove tender north of Georgia, although being deciduous, it deserves a wide trial to determine its range. It may prove adapted to cultivation south of the range of poplars in Florida.

**POUPARTIA AXILLARIS.**  
Hsuan Tsao. From China. Seventy-foot deciduous fruit tree (classified with Spondias) bearing yellow fruits larger than damsons, having acid flavor, relished by the Chinese. No. 36898 seedlings from tree at Berckman's Nursery, Augusta, Ga., introduced by E. H. Wilson from Western China. No. 36899 seedlings from trees on Hong Kong Island.

**35433. PREMNA ODORATA.**  
From C. F. Baker, Los Banos, Philippine Islands. The leaves of this tropical verbenaceous tree are rich in an unknown essential oil, which possesses marked insecticidal powers, and sometimes they are dried and powdered by the natives for use on poultry and other animals as a lice exterminator.

**32833. PRUNUS ARMENIACA.** Apricot. From Frank N. Meyer, Russian Turkestan. A native Central Asian variety of apricot called by the natives "Bairan-Ali." Said to be of excellent quality. Grafted on *Amygdalus davidiana*, S. P. I. No. 34515.

**37006. PRUNUS ARMENIACA.** Apricot. From Chita, Transbaikial, Siberia, through M. M. Timogowitsch. Coming from the extremely cold region of Transbaikial these seedling apricots are worthy of trial in the extreme northwest where, even if not valuable as table fruits, they are likely to be of use in the origination of a hardier strain of apricot.

**34601. PRUNUS MIRA.** Wild Chinese Peach. From E. H. Wilson, of Arnold Arboretum. Thirty-foot tree, discovered north of Tachienlu, China, at altitude of 9,000 feet. Fruit one inch in diameter; fuzzy, with smooth stone; edible. Shows tendency to bloom late in the spring; may prove useful for breeding purposes or as stock. Apparently hardy in Massachusetts and in northern Florida.

**32670. PRUNUS SPINOSA X DOMESTICA.** From Koslov, Russia, through Frank N. Meyer. Hybrid plum produced by the plant breeder Mijurin between the Green Reine Claude and *P. spinosa*, a hardy spiny bush of Europe, Persia, North Africa and Siberia. Fruits dark purple, small, sweet and characteristically spicy. Good keeping qualities. On *Amygdalus davidiana* stock.

**32671. PRUNUS SPINOSA X DOMESTICA.** Hybrid Plum. From Koslov, Tambov Government, Russia, through Frank N. Meyer. Hybrid between the Green Reine Claude plum and *Prunus spinosa*, originated by I. V. Mijurin at Koslov. Fruits dark purplish, medium-sized, very sweet flavor and aftertaste all their own. Trees very productive and vigorous.

**32673. PRUNUS SPINOSA X DOMESTICA.** Hybrid plum from Koslov, Russia, through Frank N. Meyer. Hybrid produced by Mijurin, the Russian plant breeder, between the Green Reine Claude and *Prunus spinosa*. Medium-sized fruit of beautiful yellow color; spherical shape; sweet, spicy and juicy; of good keeping quality. Tree medium-sized, very healthy; cold resistant. On *Amygdalus davidiana* stock.

**36111. PRUNUS TOMENTOSA.**

Chinese Bush Cherry. From Peking, China, through Frank N. Meyer. A bush bearing small, sour cherries on short stems, valuable for preserves. Its extreme hardiness and ornamental character, and probable usefulness for hybridization experiments, make it promising for dooryards in the north-west. Local name, "Suan ying tau'r," meaning, sour cherry.

**36718. PRUNUS TRILOBA.**

Flowering Plum. From Frank N. Meyer, Peking, China. Hardy shrub producing in early spring light pink to dark violet-pink double blossoms. Much cultivated by Chinese in small gardens; worthy extensive trial as dooryard shrub. Seedlings from seeds collected in German legation grounds, Peking, likely to vary in color, time of blossoming and doubleness.

**18586. PRUNUS SP. Plum.**

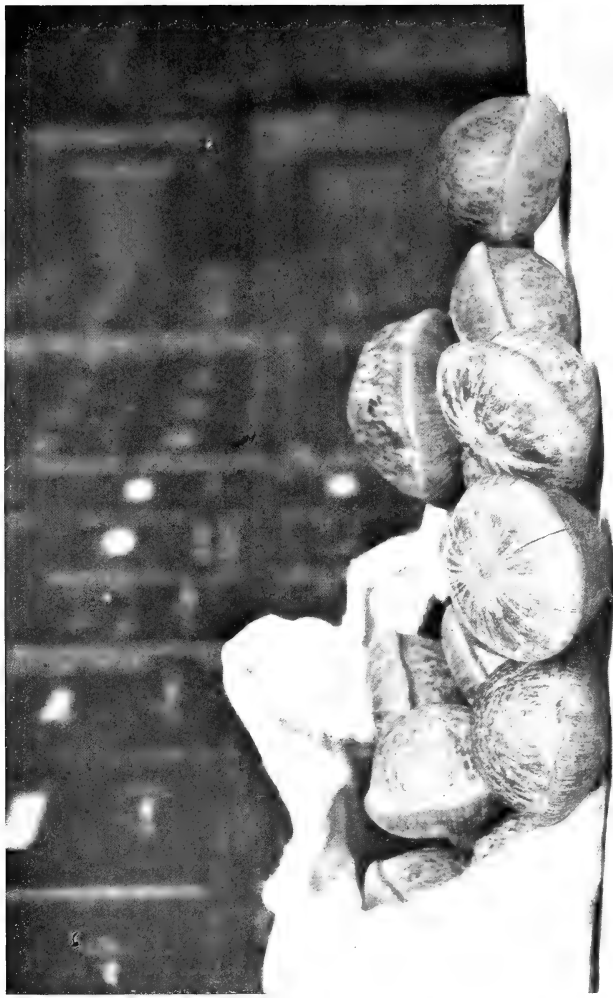
From F. N. Meyer, Shanghai, China. A free bearing plum of the Japanese type having red fruit of medium size and good quality.

**18587. PRUNUS SP. Cherry.**  
From Frank N. Meyer, Tang-hsi,  
China. Trees produce small sweet red  
cherries of good quality. Fruit ripens  
early in the season.

**31652. PRUNUS SP. Plum.**  
From Mr. W. J. Newberry, curator,  
Botanic Gardens, Maritzburg, Natal,  
South Africa. "Methley." A dark red  
fruit; flesh dark red, firm; stone me-  
dium in size, cling; flavor and  
quality good; season very early.

**36607. PRUNUS SP. From Mr.**  
Ustin Gudjakoff, Razdoynaya, Siberia,  
through Frank N. Meyer. Yellow  
Ussurian plum, very hardy, fruits  
possess a fine aroma. It is recom-  
mended for use in hybridization work  
to create perfectly hardy plums for  
cold regions.





Nuts of *Pasania cornua*, an Evergreen Tree closely related to the Oak. The nuts are as thick walled as hickory nuts, the kernels are white and of characteristic shape, and have a sweet, very agreeable flavor. In China they are sold on the markets as chestnuts are here. The tree stands somewhat severe frosts.



Mr. Isuke Tsuboi in his grove of Madake bamboo *Phyllostachys bambusoides* (*P. quillioi*) at Kusafuka. If cared for and constantly mulched, groves like this may be established where not too cold, spreading from plants set out twelve feet apart.

**38757. PSIDIUM CATTLEIANUM.** Guava. From Santa Barbara, California, through G. P. Rixford. Var. *lucidum*. A yellow-fruited guava, supposed to be hardier than the ordinary form, and therefore worthy of trial when other varieties have been winter killed. Quality not supposed to be superior.

**PSIDIUM GUAJAVA, Guava.**

Evergreen tropical shrub or dwarf tree, with handsome white flowers. The yellowish fruits are round or pyriform, 2 to 3 inches in diameter, with white or pink pulp and numerous seeds. The fruits are sweet or acid, eaten raw or used for canning. They also produce an excellent grade of jelly and "guava cheese."

**34638. PSIDIUM MOLLE.** From Ad. Tonduz, San Jose, Costa Rica. "Guisaro." A tree or shrub that grows in the temperate regions of Costa Rica, bearing small, edible, sour fruits. Related to the guava.

**37897. PSIDIUM SP.** Wild Guava. From Pirapora, Minas, Brazil, through Dorsett, Shamel and Popenoe. Wild tree, 15 feet tall, abundant along Sao Francisco river. Fruits small, one inch long remarkable for large proportion of pulp to the few small seeds. Pulp yellowish, of very agreeable flavor, having little of objectionable musky character of ordinary guava. For breeding and jelly making.

**37922. PSIDIUM SP.** Guava. From Joazeiro, Bahia, Brazil, through Dorsett, Shamel and Popenoe. The Araca Mirim, or small guava, from the Horto Florestal. Fruit one inch in diameter; yellow, thin-skinned, pulp soft, translucent. Seeds abundant. In appearance, plant is similar to *P. guajava*. Introduced for breeding purposes and for jelly production in Florida and California.

**30360. PYRUS CHINENSIS.** Chinese Pear. From gardens of Swedish missionary, Kashgar, Chinese Turkestan, through Frank N. Meyer. Small pear of angular shape called, "Kuttera Amoot." Bright yellow; flesh soft, melting, of good flavor; not a good keeper; ripening in early August and keeping only a few weeks. Tree of spreading growth, requiring considerable space.

### 33207. PYRUS COMMUNIS.

Pear. From Pedro Giraud, Granada, Spain. "Favorita" variety; very large pear, with lemon-yellow, buttery flesh, sweet and savory. It ripens the middle of August. Not yet fruited out in America. Distributed to find climatic requirements.

### 30308. PYRUS SP. Pear. From

Khotan, Chinese Turkestan, through Frank N. Meyer. "Amoot" variety, medium-size, yellow, with knobby exterior; flesh soft and melting, poor keeper; ripens early in August. Suited to regions having long, hot summers; not yet fruited out in America. Distributed to test its climatic requirements.

### RAPHANUS SATIVUS. Radish

from China. Through Frank N. Meyer. 36772. A long white autumn radish. 38785. Bright red early summer radish. 38784. Winter radish of beautiful bright red color. Round and flattened, medium size and very attractive. For trial and comparison with standard sorts. Try different planting seasons. Much depends on proper planting date.

### 38112. REINHARDTIA SP.

Palm. From Livingston, Guatemala, through O. F. Cook. Seedlings from a feather palm growing in the garden of the British Consul at Livingston. Grows to 20 feet. Resembles *Ptychosperma* (*Seaforthia*) *elegans*, one of the best of ornamental palms for greenhouse culture. Introduced for comparison with this species and for trial in Florida.

### 36735. RHAMNUS SP. Buck-

thorn. From Ying tau ko, China, through Frank N. Meyer. A small-foliaged species, having large, jet black berries. This shrub does not grow tall, but is densely branched and assumes a well rounded form when not mutilated. Of value as a garden and park shrub, and for medium-sized hedges, especially for dryer sections of the United States.

### 37384. RHEEDIA EDULIS.

Limao do Matto. From Lavras, Minas, Brazil, through Dorsett, Shamel and Popenoe. Tree twenty feet high, with deep green, glossy foliage, and thick-skinned fruit, two inches long, having snowy-white pulp with acid flavor, resembling the mangosteen in appearance and the lansium in taste. Makes superior sweetmeats. Related to mangosteen. Try as stock.

22452. **ROSA SP.** Meyer's semi-double yellow rose. From Peking, China. A remarkable early, deep yellow, non-fragrant rose, valuable for breeders on account of early blooming and for gardens. Shoots rank, often six feet. Distinct from *xanthina* with single flowers, and *hugonis* with scarcely double lighter yellow ones. Try on various stocks.

27180. **ROSA SP.** Wild Rose. From F. N. Meyer, near Gagri, Caucasus, Russia. Strong-growing rose with many large fruits, found in dry, rocky locations. For experimental use as a stock in semi-tropical locations and for greenhouse forcing.

33347. **ROSCHERIA MELANOCHAETES.** From Mr. G. Regnard, Port Louis, Mauritius. A palm 15 to 25 feet high, with many aerial roots, and a stem 2 to 3 inches in diameter, with a ring of spines, when young, below each leaf-scar. Very ornamental. Occurs in shaded forests at an elevation of 1,000 feet in the Seychelles.

**34045. RUBUS SP.** From Nice, France, through A. Robertson Proschowsky. A large, climbing species, with beautiful evergreen leaves, rose-colored flowers and yellow, juicy, fruits of very good quality. It is such a vigorous Rubus that it has climbed nearly to the top of an olive tree in Dr. Proschowsky's garden. Not yet fruited in America.

**17737. SALIX BABYLONICA.** Willow. From Frank N. Meyer, Schah-schoon, China. Remarkable ornamental willow, 8 feet high, forming naturally dense, flat-globular heads, but of upright growth when planted in hedges. The branches are long, slender and tinged with red towards the tips.

**19857. SALIX BABYLONICA.** Weeping Willow. From St. Luzia, Madeira. Secured by David Fairchild. These plants are descendants of a tree growing at St. Helena over the former grave of Napoleon I.



**24418. SALIX BABYLONICA.**

Weeping Willow. From Frank N. Meyer, Fengtai, China. Used as a shade tree in the streets of Peking under trying climatic and other conditions; succeeding well on very dry places. Recommended for trial as an ornamental.

**26762. SALIX BABYLONICA.**

Willow. From Mr. Frank N. Meyer, estate of Maximoff, Crimea, Russia. A willow with golden yellow twigs which are very pliable. The tree is used for hedges and windbreaks. Fit for the drier parts of the United States where the winters are mild.

**33135. SALIX FRAGILIS  
PENDULA.**

Weeping Willow. From Dr. L. Trabut, Mustapha, Algiers. An ornamental weeping form of the brittle willow; probably suited best for trial in California and the southwest. These cuttings may be from a male plant.

19856. *SALIX VIMINALIS*. Osier Willow from Funchal, Madeira. Secured by David Fairchild. This willow is grown in the mountains and is pollarded to make it produce long branchless shoots, which are used for the manufacture of baskets, chairs, etc.

26671. *SALIX VITELLINA*. Golden Willow. From F. N. Meyer, near Baidari, Crimea, Russia. Variety Aurea. Ornamental tree with rather short, thick trunk and handsome golden yellow branches. Suitable for garden and park planting in mild-wintered regions, where dry and hot summers prevail.

22450. *SALIX SP.* Willow. From Frank N. Meyer, Pautingfu, China. Strong-growing bush of upright habit, with smooth, greenish branches tinged with yellowish-red. Occurs on dry lands in North China, requiring no water beyond the scanty summer rainfall.



Tree of the Imbu (*Spondias tuberosa*). In the dry interior of Southern Brazil it is one of the most important wild fruit trees, producing an abundance of yellow, orange flavored fruits.



Row of Karagatch Elms (*Ulmus* sp.) on the Imperial Estate at Murgab, Oasis of Merv, Russian Turkestan. A hardy, densely foliated species of great beauty.

**30052. SALIX SP. Willow.**

Through Mr. Frank N. Meyer, from Khanaka, Chinese Turkestan. Grows to be very old and large when not continually pollarded; bark of young branches of a mahogany-brown color. Resistant to alkali, great heat and drought. Recommended as an ornamental tree in the United States where the rain fall is light and summer temperatures high.

**30058. SALIX SP. Willow. From**

Langru, Chinese Turkestan through Frank N. Meyer. Golden willow called Li-la-machon. Cultivated as ornamental. Young branches golden, turning yellowish-green. Medium-sized, low-headed tree of somewhat flat, globular shape; withstands fair amount of alkali; prefers moist location. Recommended for parks and gardens in irrigated regions.

**30144. SALIX SP. Willow.**

Through Mr. Frank N. Meyer, from Langar, Chinese Turkestan. A weeping willow called "Khutta suchet." Grows in rather sandy, alkaline soils. The drooping habit does not develop until it has formed a good trunk.

**SCHINUS TEREBINTHIFOLIUS.** Pepper-tree. Medium sized, ornamental, evergreen tree, native of Brazil, with very striking foliage, highly prized for avenue and lawn planting in mild-wintered regions. Similar to *S. molle*, but with stiffer branches and leaves larger and darker green.

**7688. SCHIZOCENTRON ELEGANS.** (Formerly **HEERIA ELEGANS.**) From Southern Mexico. Through Dr. J. N. Rose. Creeping, vine-like plant, forming a dense carpet and rooting at the joints. Its reddish branches, deep purple flowers and small red berries, make it extremely decorative. In well lighted green-houses it forms a mat under the benches.

**SESAMUM ORIENTALE.** Sesame. Annual, 5 to 7 feet tall, producing seeds rich in oil, extracted by expression. This is mild, bland and edible, as tasteless as olive oil, often used to adulterate it. Seeds also used in making an attractive confection similar to peanut brittle. Succeeds well in semi-arid regions and apparently well adapted for the southwest. Pulverize soil before planting.

**37931. SESBAN MACRO-CARPUM.** Amores Casadas. From Bom Fim, Brazil, through Dorsett, Shameland Popenoe. Rapid-growing, leguminous tree with acacia-like leaves and masses of yellow or yellowish-brown flowers. Wild trees reach height of 15 feet and are very handsome when in flower. Possibly useful as cover crop in Florida or California.

**22023. SOLANUM MELONGENA.** Golden Eggplant. From Frank N. Meyer, Peking, China. Dwarf annual, producing fruits the size of a small egg, at first white, later turning to a golden yellow color. Much grown as an ornamental pot plant by Chinese and recommended for the same purpose in this country.

**37566. SOLANUM QUITOENSE.** Naranjilla. From Frederick W. Goding, Guayaquil, Ecuador. A shrubby plant, four feet high, growing a few hundred feet above sea-level in the tropics. Fruits one inch in diameter resembling small oranges in appearance; very sour, with a peculiar fragrance. Delicious ices, salads and refreshing drinks are made from the fruit in Guayaquil.

## **SOPHORA TETRAPTERA.**

Handsome, leguminous tree; growing to a height of 40 or more feet, and 3 or more feet in diameter. Blossoms are large, deep yellow, very attractive. The wood is extremely durable, showing no signs of decay after lying 20 years in the damp brush. Native of Chili and New Zealand.

## **26470. SPONDIAS CYTHEREA.**

From E. L. Parker, Monrovia, Liberia.

Deciduous tree of rapid growth, producing richly colored yellow fruits, 2 inches in diameter, with brownish-yellow flesh somewhat resembling the pineapple in flavor. Easily propagated from cuttings. Suitable for planting in Southern Florida and California.

## **SPONDIAS TUBEROSA.** Imbu.

Medium sized tree, from the dry lands of eastern interior Brazil, branching four to six feet above ground, forming a broad, flat-topped, dense head and producing golden yellow plum-like, edible fruits, flavored somewhat like a sweet orange. Large limbs, when freshly cut and used for fence posts, frequently take root and grow.



**36170. SWIETENIA MAHOGANI.** True Mahogany. From Don. Nat. O. y Osuna, Sinaloa, Mexico. Tree attaining great height and six feet in diameter. Furnishes mahogany lumber of commerce. This species occurs wild on islands south of Everglades, and grows on hot coral rock on seacoast of Florida, even where salt spray can reach it.

**36184. SYZYGium OPERCULATUM.** Rai-jaman. From Lahore, India, through W. R. Mustoe. A large, handsome, evergreen tree, bearing fruits about the size of damsons. These, if put between two plates with a pinch of salt and shaken a few times, lose their astringency. Deserves to be tried in south Florida.

**38649. TABEBUIA PENTAPHYLLA.** From St. Croix, Danish West Indies, through Longfield Smith. A beautiful flowering tree with orange colored flowers which give it a most handsome appearance. Its timber is considered first rate for house and ship building purposes. Probably tender except in tropics or subtropics. Known as Poirier de Martinique; old name *Tecoma pentaphylla*.

**34804. TAMARIX PENTANDRA.** Tamarisk. From Novospaska, Syzran-Riazan Ry., Russia, through Frank N. Meyer. The fact that the tamarisk can withstand unusual amounts of alkali, is cold resistant and branches near the ground, makes it an excellent plant for windbreaks. It can be easily propagated by cuttings. This species from Russia is recommended for the Great Plains.

**22867. TAMARIX SP.** From near Tai yuan fu, Shansi, China, through Frank N. Meyer. Extremely rapid growing tree or shrub, branching close to the ground, making excellent windbreaks and even hedges. One of the most drought and alkali resistant of all plants; cuttings put in ground just after rain grow easily. Recommended for south side of windbelts on Great Plains.

**36016. TERMINALIA EDULIS.** Columbit. From Mr. P. J. Wester, Lamao, Bataan, P. I. Large, attractive fruit tree, with well rounded, open crown, affording half shade. Fruits are edible, ripening in June and July, larger than a cherry, of dark red color and fleshy, with a sub-acid flavor.

**36049. TRICHOLAENA ROSEA.** Natal Redtop. From Angola, Africa, through Wm. C. Bell. A hay grass considered of value in the tropics generally. A rank species, growing in deserted fields on poor, dry soil. Oxen are fond of it and, if cured early, good hay is made of it. Deserves trial as this is possibly a different strain from others already tested.

**36150. UGNI MOLINAE.** Murta. From Valdivia, Chile, through W. F. Wight. Wild shrub, closely related to *Eugenia*; four to eight feet high; ornamental foliage; very palatable, aromatic, edible berries, one-fourth to one-half inch in diameter. Sold on markets in towns of Chile; a sweetmeat or "dulce" is made from them which is considered excellent. Suited probably to Florida and California.

**32830. ULMUS DENSA.** Elm. From Oasis of Merv, Russian Turkistan, through Frank N. Meyer. Ornamental tree with globular head when young, but becoming picturesque when old. Strong grower, requiring plenty of room. Called locally "Kitaisky", indicating possible Chinese origin. Stands extreme heat and some alkali. Worthy of trial in southwest and Great Plains with American elm.

**37810. ULMUS PARVIFOLIA.**

Elm. From Frank N. Meyer, Nan to tchu, Shensi, China. Small-leaved species, ranging from shrub to tall tree according to location. Very drought resistant and stands fair amount of alkali. Much planted by Chinese for cart building lumber. Adapted to mild-wintered, semi-arid regions, for lumber and park purposes.

**22975. ULMUS PUMILA.**

Chinese Elm. From Frank N. Meyer, Fengtai, China. Tall shade and timber tree, remarkably resistant to droughts and severe extremes of temperature. Timber mainly used for the manufacture of Chinese carts. Of exceptional promise as a shade tree for the northern semi-arid regions of the United States.

**34063. ULMUS SP. Karagatch**

Elm. From Truckee-Carson Field Station, Fallon, Nevada. Grown from seeds received from Russian Turkestan. Rapidly growing elm well suited to semi-arid regions, has much harder and better wood than the American elm and is as good or better for wind-breaks and shade in arid regions.

**22978. VIBURNUM MACRO-  
CEPHALUM.** Giant Chinese Snow-  
ball. From Soochow, Kiangsu, China.  
through Frank N. Meyer. A tall bush,  
bearing very large umbels of white  
flowers, attaining sometimes a foot  
in diameter. Employed by Chinese  
extensively as a dooryard shrub; often  
dwarfed by grafting on wild form and  
grown in tubs. A very showy shrub.  
Probably not hardy in the north.

**21976. VITEX INCISA,**  
from Frank Meyer, Shantung, China.  
Tall perennial growing on dry alkali  
lands, with delicate blue flowers  
appearing in terminal panicles and  
rich in honey. Annual shoots occa-  
sionally used by Chinese in basket  
manufacture. Recommended for test-  
ing as an ornamental in the South-  
western States.

**28690. WIDDRINGTONIA  
WHYTEI.** Mlanje Cypress. From  
J. M. Purves, Zomba, Central Africa.  
Tall tree, 100 feet high, resembling a  
cedar, well suited for avenue planting  
in warm countries. Wood is fragrant  
and rich in oil, burning like a candle  
when dry. Prefers sheltered localities.  
Recommended for trial in South  
Florida and our island possessions.

**30281. XANTHOCERAS SORBIFOLIA.** Mu kua hua. From China, through Frank N. Meyer. A beautiful flowering shrub, not altogether new to America, but rare. It is related to the horsechestnut and, like it, suited for lawns and private garden planting. Its showy white flowers appear with leaves in spring; sometimes used for forcing. Foliage unusually healthy.

**35032. ZEPHYRANTHES SP.** Zephyr Flower. From Vina del Mar, Chile. Through W. F. Wight. A yellow flowered species found in the sand near the seashore. Bulbous plants with single blooms. Try in window-box culture. Blossoms opening in summer. Not quite hardy northward. The bulbs should be wintered in a place free from frost.

**ZIZIPHUS JOAZEIRO.** Jua. From Minas Geraes and Bahia, Brazil. Collected by Dorsett, Shamel and Popenoe. Densely foliated, thorny tree, 40 feet high, bearing large quantities of small, yellow fruits of which cattle are so fond that the tree is valued as a forage plant for dry lands, where it succeeds well. Tea made from fruits is used as an emollient.



